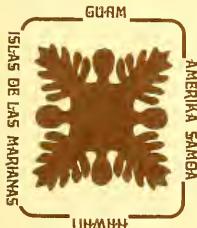




PACIFIC ★ BASIN DEVELOPMENT CONFERENCE



ECONOMIC GROWTH AND DEVELOPMENT THROUGH UNITY

FINAL REPORT
FEBRUARY 17-20, 1980
KUILIMA, HAWAII



PACIFIC BASIN DEVELOPMENT CONFERENCE
FINAL REPORT

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**PACIFIC BASIN DEVELOPMENT CONFERENCE
FINAL REPORT**

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PACIFIC BASIN DEVELOPMENT CONFERENCE

FINAL REPORT

Section I

- A. Background
- B. Conference Objectives and Organization
- C. Approach and Operations
- D. Results and Recommendations



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A. BACKGROUND

Introduction

The Pacific Basin Development Conference, held in Kuilima, Hawaii on February 17-20, 1980, signaled the establishment of a unique partnership among four island jurisdictions, the private sector, and the Federal government to cooperatively determine the future development needs and priorities of the American Pacific Islands. These Island groups -- the Territory of American Samoa, the Territory of Guam, the State of Hawaii, and the Commonwealth of the Northern Marianas -- represent both singular and regional economic entities of enormous undeveloped potential. Development opportunities exist in the areas of fisheries, ports, trade, transportation, tourism, telecommunications, energy, and the utilization of vast resources of the land and sea.

The framework for this historic Conference was based on a recommendation made by an Interagency Task Force on Territorial Policy, established in January, 1979 by President Carter. The Task Force recommended careful coordination of all Federal involvement in Territorial development.

Responding to this recommendation, the Western Governors' Conference at their annual meeting in June of 1979, unanimously endorsed the concept of a Pacific Islands economic development conference. The Island Governors, Peter Coleman (American Samoa), Paul Calvo (Guam), George Ariyoshi (Hawaii), and Carlos Camacho (Northern Marianas), then requested and secured the active support of the Carter Administration through Department of Commerce sponsorship of the Pacific Basin Development Conference.

Pre-planning sessions, attended by Island, Department of Commerce, and Western Governors' Conference representatives, focused on priority development issues identified by the Governors. In November, 1979 Deputy Secretary of Commerce Luther H. Hodges, Jr., joined the Governors as a Conference Cochairman and invited the support of key representatives from industry, the Department of the Interior and the Department of Energy.

The Conference brought together the Island Governors, as well as representatives of the White House, Congress and various Federal, State and Territorial officials, with

representatives from the business community, academia, labor and the military. This unique partnership of participants was faced with the challenge of designing a framework of shared responsibility for the growth and development of the Pacific Basin.

This report details the strategy and outcome of the Pacific Basin Development Conference in meeting this challenge by designing a five-year plan for the future economic development of this Region.

The Pacific Basin

Conference participants were provided brief geographic and economic profiles of each Island entity prior to the Conference. The following information provides a basic picture of the vast oceanic expanse in which these Islands lie, as well as the similarities and differences among them in size, population, employment, and economic activity.

The Pacific Basin Region lies astride the intersection of the Equator and the International Dateline in the North and South Pacific Ocean (See Exhibit I, pg. 20). The Region is situated between a myriad of Pacific and Asian nations and the continental United States. The Regional outline resembles a triangle resting on a tip -- American Samoa -- with one side running to the right and up northeasterly to Hawaii -- some 2,275 miles; one side of the triangle running to the left and level, westerly to the Northern Mariana Islands -- some 3,550 miles; and the other side, representing the distance from the Northern Mariana Islands to American Samoa -- some 3,075 miles. Guam is the southernmost and largest of the Marianas. Within that Regional triangle lies some 4,400,000 square miles of ocean, interrupted only by the island groups of the Marshalls, the Gilberts, the Phoenix, and the Tokelaus.

American Samoa comprises seven islands with a total of 774 square miles. The largest island is Tutuila, containing 53 square miles, with the government center located at Pago Pago. American Samoa's population is approximately 31,000, and its principal economic activities are tuna canning, retail and service enterprises, and government employment. The tuna canneries are supplied with fish by commercial fishing fleets from Taiwan and North Korea.

Guam contains 212 square miles of land and its capital, Agana, is located midway along its northwesterly shore. The Guam Planning Agency estimated the total island population in 1975 as 105,000 of which 25,200 were military, 58,226 native-born Guamanians, and the remainder civilian Statesiders or foreigners. Guam has basically a service economy containing three major activities: Federal and local government, construction, and retail trade. The major employer on Guam is Federal or local government agencies, accounting for approximately half of the civilian workforce.

Hawaii is the largest island group in the Pacific Basin Region, containing eight major islands with a land area of 6,424 square miles. Hawaii's state capital is located on the island of Oahu, in the city of Honolulu, and its estimated 1980 population is 942,300. Hawaii's major economic activities are tourism, defense and Federal civilian spending, and the pineapple and sugar industries. Hawaii has a service economy with service industries accounting for over half the civilian work force.

The Commonwealth of the Northern Mariana Islands is composed of sixteen islands with a total of 183 square miles of land. The capital is located on the island of Saipan, near the southernmost boundary of the island chain, and the group contains an estimated 1980 population of 15,000. As with Guam and Hawaii, services dominate the Northern Marianas' economic activity. Tourism and government employment make up almost the total civilian labor force. Additionally, approximately 25% of that labor force is made up of non-Micronesians -- U.S. citizens, Filipinos, and Japanese.

These brief sketches, when taken collectively, define a Region with a common geographic setting, fragile ecological systems, limited land areas and great distances from supply sources and markets. These common traits suggest that the Region possesses similar constraints and conversely similar opportunities for growth and economic development.

Recognizing these opportunities, the Pacific Basin Governors identified five top priority issues for discussion with Federal representatives. These issues -- energy, fisheries and maritime resources, tourism, foreign and intra-island trade and telecommunications -- were the focal points of pre-Conference planning between representatives of the Governors, the Federal government, and the White House. The final Conference issue topics were established as fisheries, coastal zone management, telecommunications, ports, transportation, trade, tourism, energy, and municipal services.

B. CONFERENCE OBJECTIVES & ORGANIZATION

Purpose, Objectives and Goal

The purpose of the Pacific Basin Development Conference was to determine the economic needs and priorities of the American Pacific Islands, through a cooperative Island, industry, and Federal government effort.

Initial planning sessions established the following three basic objectives which the Conference would strive to achieve:

- o Establish an intergovernmental partnership aimed at developing a process for focusing Federal activity in the Pacific Basin (the Conference itself and the resulting cooperative approach among participating entities).
- o Review the development issues identified by the Governors and recommend actions in the form of programs and projects with defined priorities, resource requirements and lead responsibilities (basis for five-year plan for economic development).
- o Develop a cooperative regional strategy among the Islands, the private sector, and the Federal government to implement these recommendations (a coordinating mechanism to assure that the recommendations are carried out).

By accomplishing these three objectives, the Conference participants aimed to achieve the final goal of developing an integrated, multi-sector five-year plan for the American Pacific Islands that would serve as a blueprint for a Regional development investment strategy in which the Pacific entities, the private sector, and the Federal government are full partners.

Conference Organization and Preparation

In order to accomplish these objectives, Conference planners sought the policy guidance of the highest ranking decision makers involved in Pacific Basin development. The Conference Cochairmen were the Island Governors, Peter Coleman (American Samoa), Paul Calvo (Guam), George Ariyoshi (Hawaii), and Carlos Camacho (Northern Marianas), and two senior Federal officials, Deputy Secretary of Commerce Luther Hodges and Under Secretary of the Interior James Joseph.

The Cochairmen were supported by a group of key individuals and committees, including the White House Domestic Policy Staff, in carrying out the conception, planning, organization, and conduct of the Conference (Exhibit II, pgs. 21 - 22).

A Conference Advisory Committee was established, comprised of a broad representation of private sector, Congressional, labor, government, and military officials who provided advice on formulating the Conference's goals, structure and content (Exhibit III, pgs. 23 - 25).

The specific responsibility of coordinating the Conference was carried out by Frances Phipps, Special Assistant for Intergovernmental Programs, Office of the Secretary, Department of Commerce and the actual conduct of the Conference fell with Co-Directors, Marvin Pitkin, Assistant Administrator for Commercial Development, Maritime Administration and Myron Thompson, Office of the Governor, State of Hawaii. These individuals were supported by a Program Committee (Exhibit IV, Pg. 26), and an Arrangements Committee listed on the major organizational chart.

The actual panel sessions were directed by the Maritime Administration due to the agency's previous experience in the development of regional five-year plans for port development in other sections of the United States. Island, Federal government and private sector representatives were selected as Chairpersons and Vice Chairpersons for the workshop/panel sessions. This Conference management group was responsible for workshop/panel operations and Conference results. They were assisted by resource persons from the private sector, Islands, or Federal government and consultants from Payne-Maxie Consultants and A.T. Kearney, Inc.

C. APPROACH & OPERATIONS

Conference Agenda

The full Conference agenda is detailed in Exhibit V, pgs. 27 - 29 . After an opening plenary session on Monday, February 18, which featured speeches by White House, Island and Department of Commerce officials, the participants were given a full briefing on workshop/panel operations and Conference objectives.

The participants spent the remainder of the Conference in nine separate panel groups, reconvening only on the final day, February 20, for a general session where the final Conference recommendations were presented.

Approach

The workshop panel titles reflected the issues of Regional development previously identified by the Governors. The panels were fisheries, coastal zone management, telecommunications, ports, transportation, trade, tourism, energy and municipal services.

Each panel averaged over 30 participants representing the Island governments, business and industry, the Federal government, academia, labor and special interest groups. The following chart details panel participation by these groups.

PANEL PARTICIPANT REPRESENTATION

<u>Category</u>	<u>Number of Representatives</u>
Island Governments	85
Federal Government	68
Business/Industry & Labor	87
Academia	22
Special Interest Groups	<u>11</u>
TOTAL	273

The basic approach, which the Conference panels utilized in determining their final recommendations, is known as the program element approach. Prior to the Confer-

ence, each participant received a workbook containing over 200 suggested program elements which were prepared by the Conference cosponsors and the private sector. Program elements are proposed programs or projects which detail problem definitions, plans of action, probable costs and schedules to address the opportunities for and barriers to Pacific Basin development.

Each panel discussed, modified and ranked their suggested program elements before arriving at their final input into the Conference's overall five-year plan for economic development. For a complete report on workshop/panel organization, operations and recommendations refer to the last section of this document which contains the final program elements recommended by the Conference.

D. RESULTS AND RECOMMENDATIONS

Overview

As shown in Table I below, the initial list of program elements (as discussed previously in the Approach & Operations sub-section of this report) was substantially revised by the Conference participants who added 101 new work programs and eliminated 178.

Table 1.

Conference Program Element Inventory

Panel	Originally Suggested	Additions	Deletions/Changes	Finally Recommended
1. Fisheries (1) (2)	19	2	14	7
	31	3	26	8
2. CZM	25	23	5	43
3. Telecommunications	12	4	12	4
4. Port	13	24	20	17
5. Transportation	32	1	24	9
6. Trade	42	1	32	11
7. Tourism	16	1	10	7
8. Energy	18	17	16	19
9. Municipal services	19	25	19	25
Total	227	+ 101	- 178	150

The panel participants' final recommendations included 150 program elements covering a 5-year investment strategy. Each panel then ranked its recommended programs as follows:

Priority 1 - Projects of immediate need that government/industry should undertake.

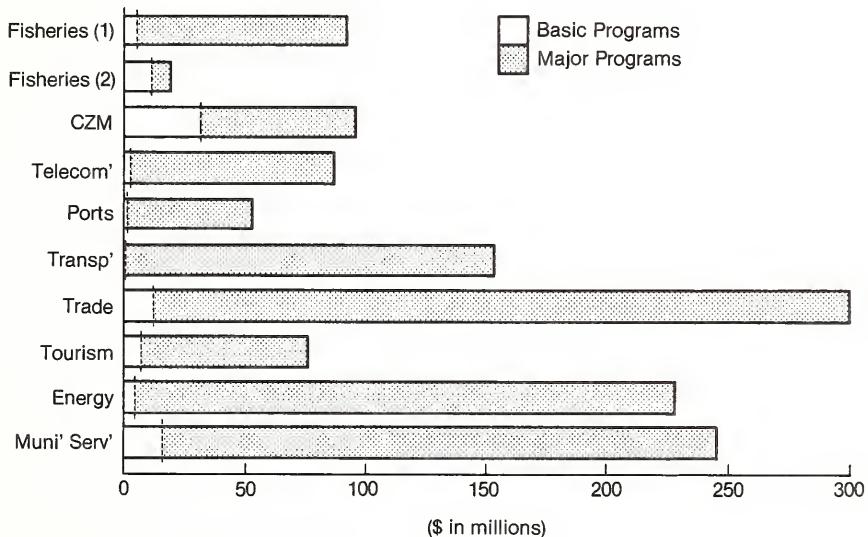
Priority 2 - Projects that Government/industry should undertake as specific elements of a final long-range program.

Priority 3 - Back-up projects, as available resources permit, that Government/industry should undertake.

The third section of this report details this plan and includes a separate element sheet for each of the 150 programs. These elements were also categorized into two groups: Basic Programs which include research, feasibility and planning studies, and information compilation analyses (planning tools which are essential prior to capital expenditure); and Major Programs which cover development bank loan funds, construction of industrial and economic complexes and demonstration projects and prototypes for private industry investment. The following figure details by panel the final Conference recommendations for five-year funding estimates to cover both basic and major programs.

Figure 1

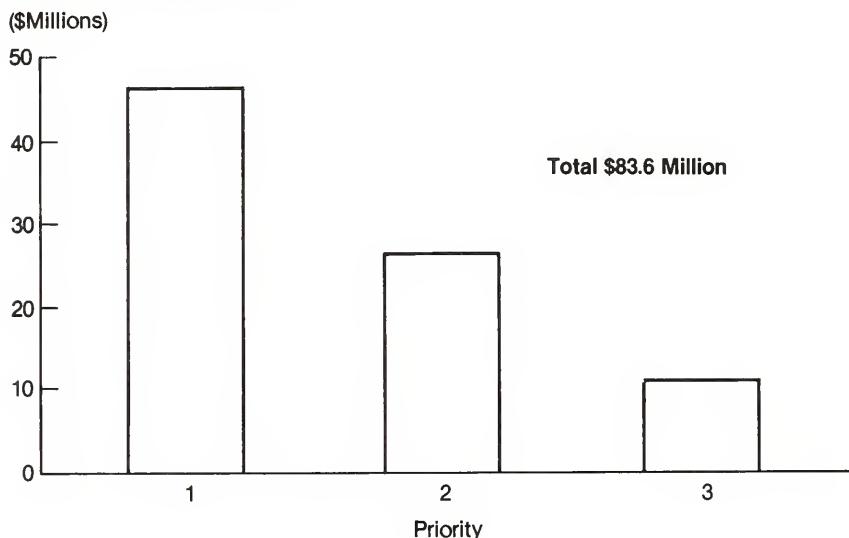
Workshop Panel Five-Year Funding Estimates Basic and Major Programs



Basic Programs
(Research, planning and feasibility studies)

Figure 2 shows the amount and priority of the Basic Programs recommended by the Conference. As shown , the Conference recommended that approximately 84 million dollars be expended over a 5-year period. Approximately 50 million dollars of this amount was categorized as Priority 1, that of immediate need. The Conference recommended that these Basic Programs be financed during the first three years of the five-year plan.

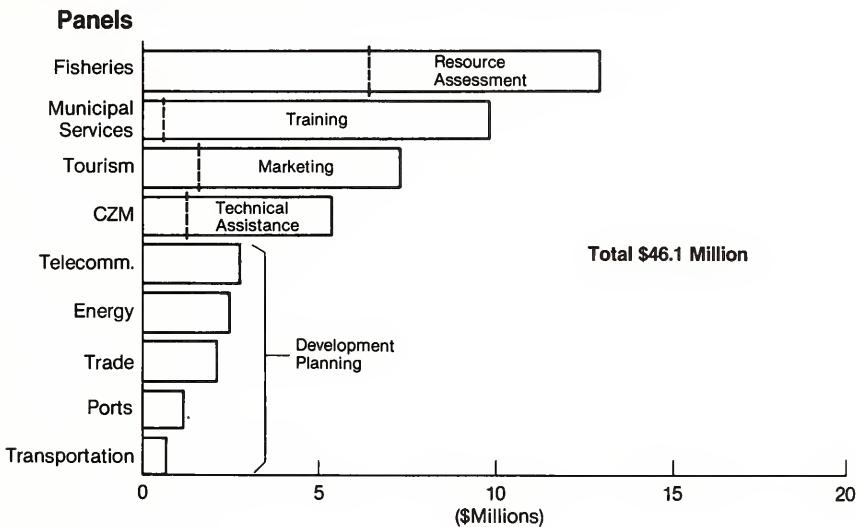
Figure 2
Basic Programs



Priority I (Immediate Needs)

Figure 3 contains a more detailed breakdown of the Priority I Basic Programs. As shown highest expenditures were recommended for fisheries studies, primarily in the area of fish resource assessment and their potential markets. Another major need was indicated by the municipal services panel for the training of Island people at all levels. The participants recognized that the limited number of Island people could not produce the required amount of public administrators, managers, labor specialists and the like to meet the demands of the emerging development program. They concluded that a desirable first step would be to assess needs for training to ensure the participation of the Island people in these programs.

Figure 3
Basic Programs / Priority One / 5-year Totals



The tourism panel on the other hand, although recognizing that some training was required to develop the Island resources, placed major emphasis on a well-planned and aggressive five-year marketing program. Other areas noted by this group were requirements to improve transportation and to ease tourist entry restrictions.

Work elements recommended by the coastal zone management panel essentially stressed programs of technical assistance to develop the required balance between economic development and environmental protection of the Pacific Islands' beautiful coast lines. Recommendations were made for a broad spectrum of analytical investigations ranging from erosion prevention and urban waterfront development to the development of master coastal zone management plans for each of the Islands.

As might be expected, the panel on energy earmarked a major share of its recommendations for the utilization and development of one of the Islands' major assets -- the Pacific Ocean. They stressed the unique opportunities offered by the warm deep waters for ocean thermal energy conversion (OTEC). The panel also foresaw (as did the other panels) a requirement for an inventory of the Islands' energy resources.

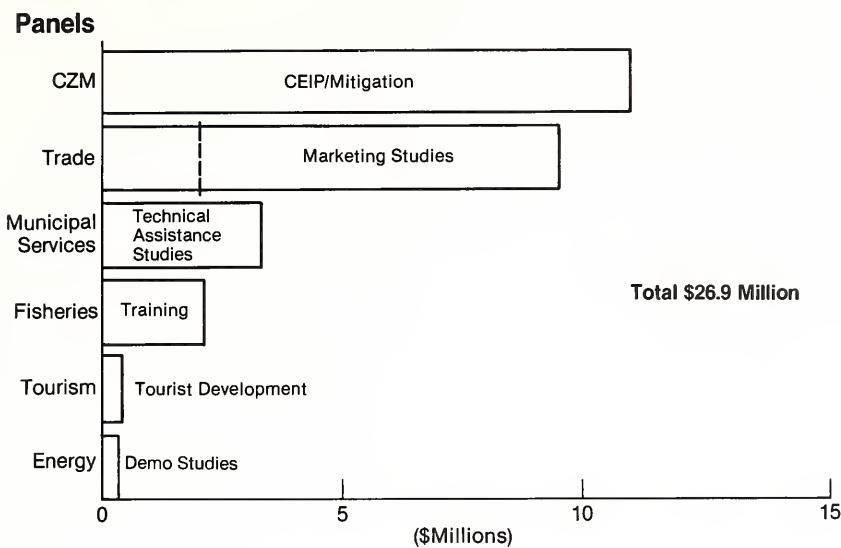
The remaining panels (trade, telecommunications, ports, transportation), defining their needs in different ways, placed their number one priority on the development of regional plans for the future.

Priority 2 and 3 Programs (Long-Range and Back-up Projects)

Figure 4 illustrates the sums recommended by the individual panels for their Basic Priority 2 programs which reflect their long-range planning needs. Figure 5 shows similar data for their Priority 3 programs if resources are available. The telecommunications, ports, and transportation panels categorized all Basic programs as Priority 1 and, therefore, are not included in either figure.

Figure 4

Basic Programs / Priority Two / 5-year Totals



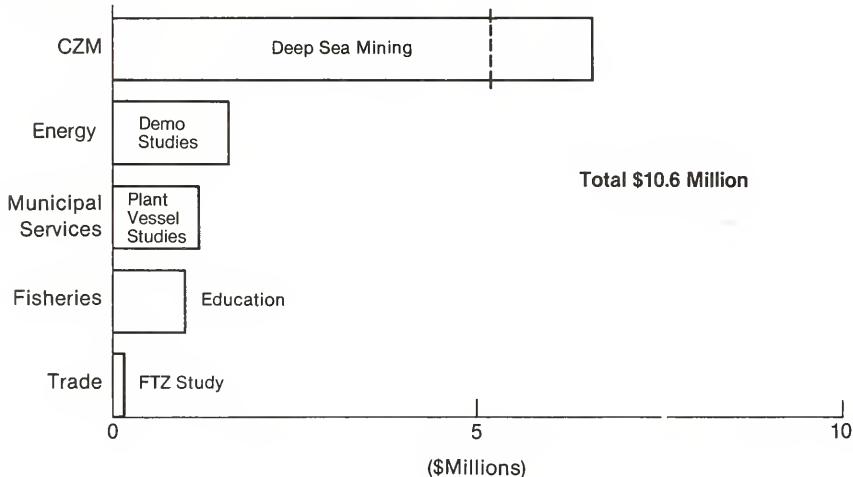
In general, the Priority 2 programs identified by the panels were logical consequences of the resource assessment and evaluation studies of the Priority 1 group and, represent a second phase of development. For example, the training programs recommended by the fisheries panel followed on the resource assessments of their Priority 1 phase. Similarly, the Priority 2 marketing studies of the trade panel were a logical follow-on to the development planning exercises of their Priority 1 programs. The coastal zone management mitigation program was designed to follow-up the technical assistance programs recommended by that panel in their Priority 1 category program.

The priority 3 programs are those programs which will be initiated should resources permit. These programs are those which the panels considered important in the longer term future but which, for various reasons, have major constraints at this time. For example, the CZM panel, although recommending a significant sum for deep sea mining relative to processing and disposal of tailings, ranked this project Priority 3 in view of the international legal and economic problems confronting this industry.

Figure 5

Basic Programs / Priority Three / 5-year Totals

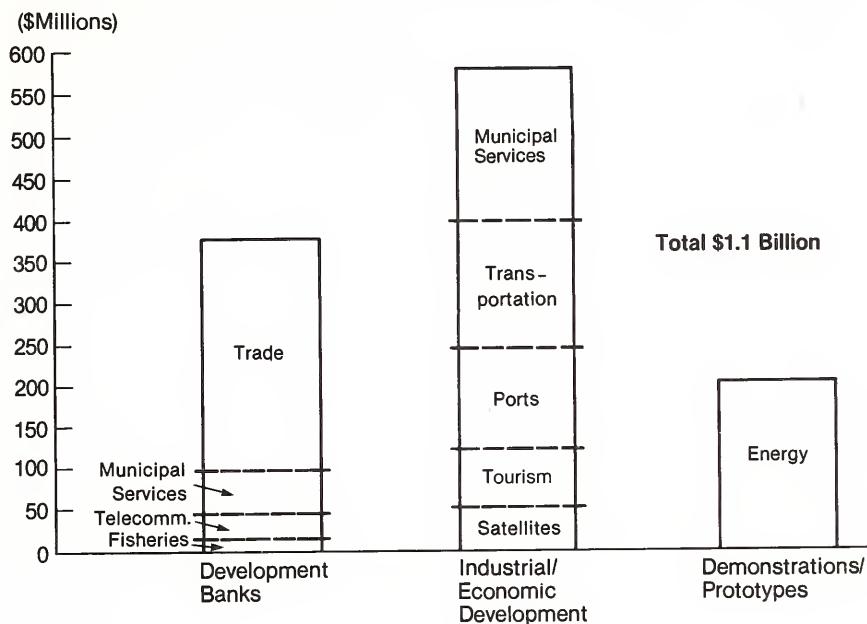
Panels



Major Programs
(Capital expenditures)

Figure 6 shows the distribution of major programs recommended by the Conference participants for a 5-year period. As shown, recommended programs were divided into three general categories and totalled approximately one billion dollars for the 5-year period.

Figure 6
Distribution of Major Programs / 5-year Totals



The first category titled "Development Banks" represents Conference recognition of the funding requirements of the Islands to support their economic development program and its emerging industries. This problem confronting the U.S. Pacific Islands is similar to that confronting the emerging nations. The latter, however, have access to the World Bank or similar institutions to fund their growth. Since these resources are not available to the American Islands, an alternate source of capital loans was considered a requirement by four of the committees. Such funds would be used to finance a wide variety of projects and ultimately would be repaid.

In a second category, shown on the right of Figure 6, the Conference identified a few but very significant demonstration and/or prototype programs, the majority of which fell in the energy area. The unique geographical characteristics of the Pacific Islands make them singularly qualified to demonstrate advanced solar energy systems and projects totalling approximately \$40 billion were recommended in this area over a 5-year period. This area is particularly important because the economy of the Islands is critically dependent upon fuel, and a sufficient energy supply is a prerequisite of economic growth.

The third category, that of "Industrial/Economic Development," is shown between the other two in Figure 6 and totals approximately \$500 million. As shown therein, these sums were concerned primarily with improving the infrastructure of the Islands with regard to their transportation and port facilities, since these facilities along with energy, pace economic growth within an island structure. Also recommended were a broad band of programs within the municipal services area so as to match the Islands' physical capabilities with the emerging economic growth and trade. Finally, a satellite program was recommended to provide the essential communications for the Islands' future development.

Figures 7 through 9 present further details of this overview, in terms of the priorities assigned by the individual panels.

Figure 7

Major Programs / Priority One / 5-year totals

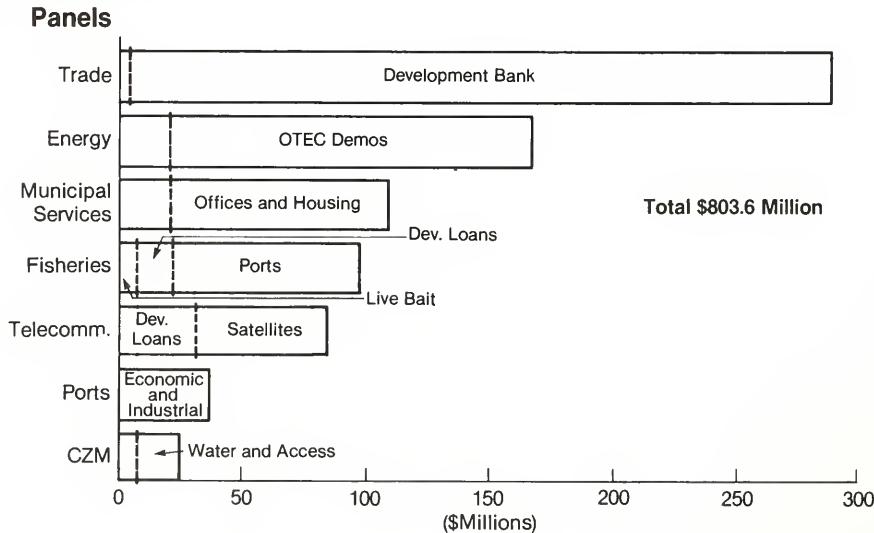


Figure 8

Major Programs / Priority Two / 5-year Totals

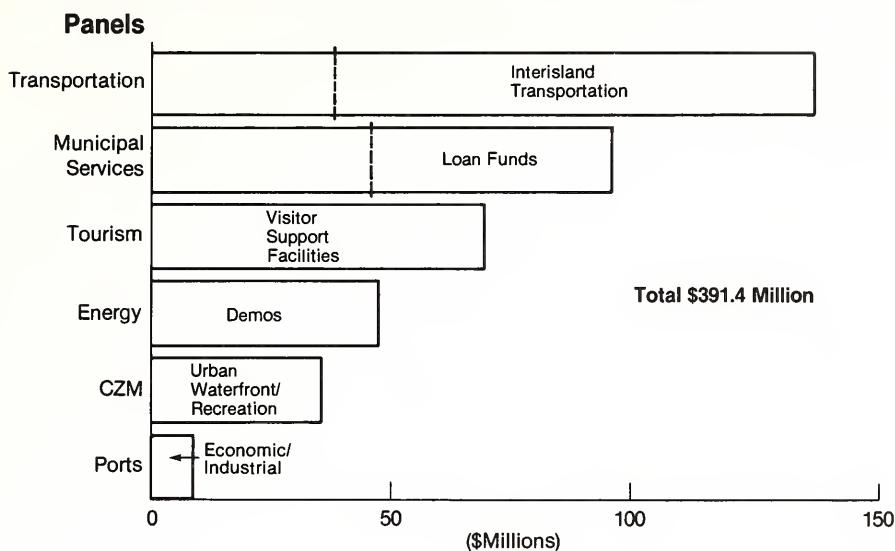
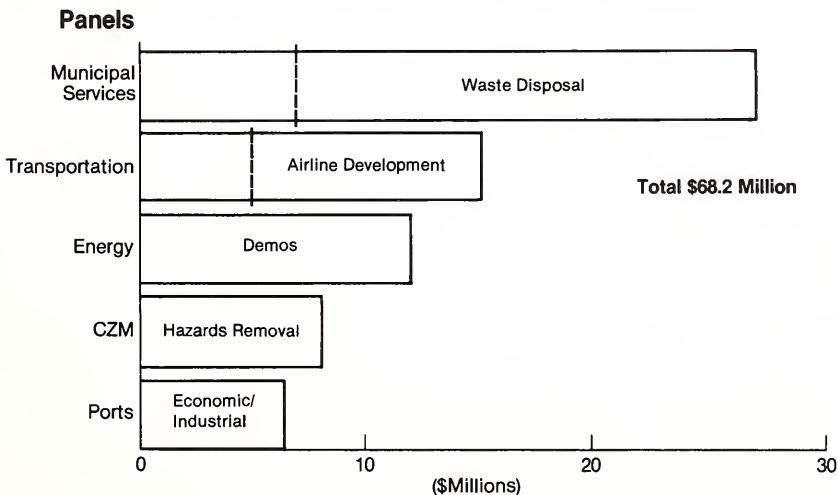


Figure 9

Major Programs / Priority Three / 5-year Totals



Recommendations

Individual recommendations were made by each panel and are outlined in Section III of this report.

Conference Summary

The Pacific Basin Development Conference achieved its goal by drafting the broad outline of a proposed Regional economic development strategy for the Basin area. The conference was unique in that it represented a coordinated effort of the four Islands concerned -- Hawaii, Guam, Northern Marianas and American Samoa and three Federal Departments -- the Department of Commerce, the Department of the Interior and the Department of Energy.

The first Conference objective was met by the actual conduct of the Conference itself which symbolized the first step in establishing a regional partnership aimed at developing a process for focusing and coordinating future Federal activity in the Pacific Basin. The second objective of the Conference was to review and order the program priorities in the previously identified nine areas of interest as the basis of an integrated, multi-sector, five-year plan. This was accomplished by means of the workshops/panels composed of Island, private sector, and Federal participants.

The third objective was to establish a coordinating mechanism to assure that the five-year investment strategy is consolidated into a cohesive regional plan and implemented. To carry out this function, the Island Governors in a joint Memorandum of Understanding, signed during the Conference (Exhibit VI, pgs. 30 - 32), established a Pacific Basin Development Council. The Council will design development opportunities for such areas as fisheries, tourism and communications and act as the linking organization between American flag islands in the Pacific and nearby island-nation neighbors. The Council was established with support from the Department of Commerce.

Following the Conference, on April 2, 1980, the Co-sponsors held a Congressional Briefing (see Agenda, Exhibit VII., pg. 33) to present the Pacific Basin Development Conference recommendations to members of the House and Senate.

An audience of eighty persons heard presentations from the Island Governors, Departments of Commerce, Energy and the Interior, White House Domestic Policy Staff, representatives from the U.S. military and the fishing industry. Key members of the U.S. Senate and House made opening remarks stating general support for the Conference's goal and the Conference Codirector concluded with a detailed summary of Conference recommendations.

On May 19, 1980, legislation (H.R. 7330), introduced by Congressman Phillip Burton, a member of the Conference Advisory Committee, passed the House. This bill would authorize appropriations for Pacific Basin development in the areas of ports, communications and energy. On July 10, 1980, the Senate Subcommittee on Energy and Natural Resources held hearings in Honolulu, under the sponsorship of Senator "Spark" Matsunaga, on the energy aspects of this legislation.

PACIFIC BASIN DEVELOPMENT CONFERENCE

FINAL REPORT

Section II

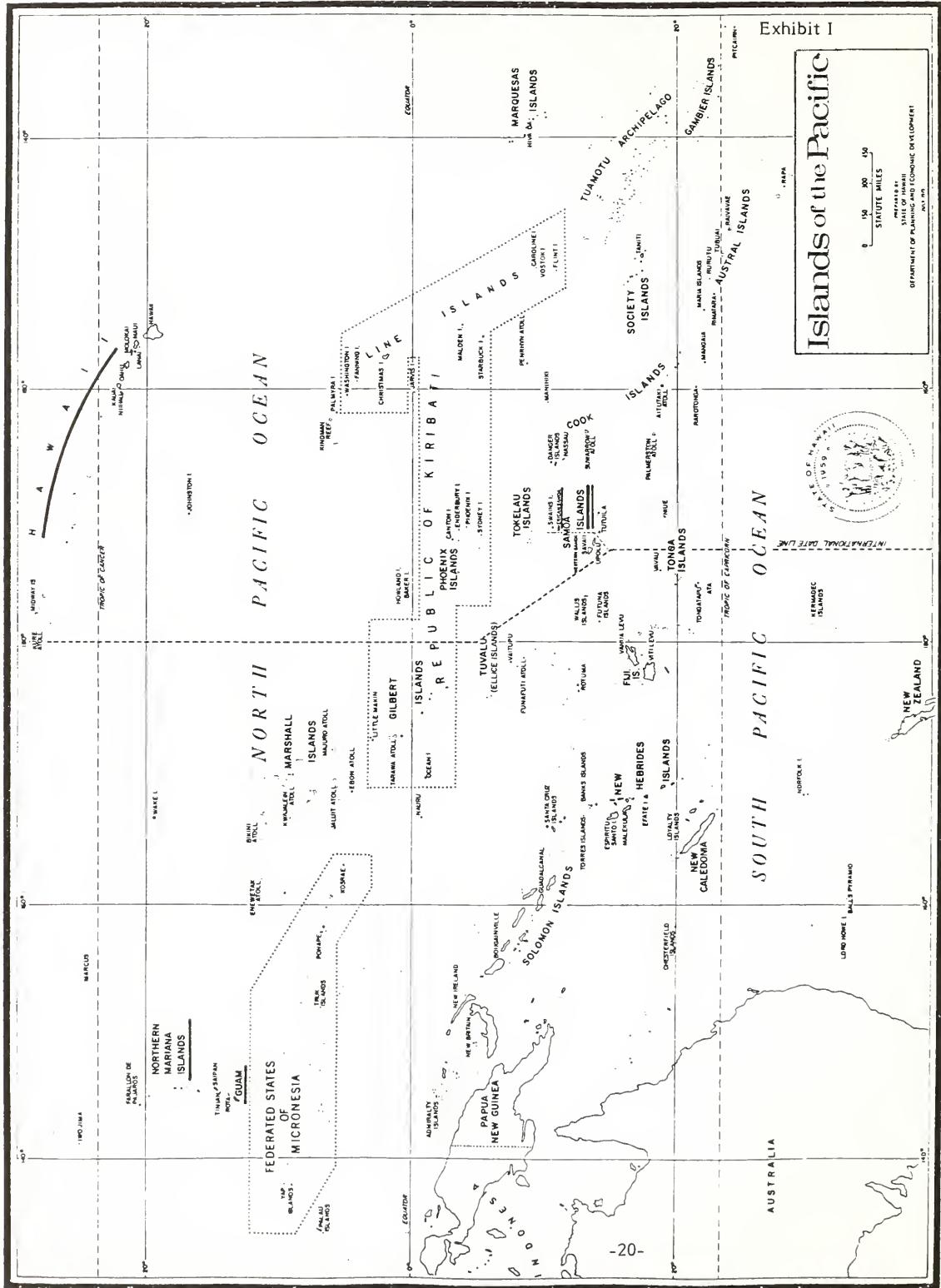
A. Exhibits

B. Speeches

Exhibit I

Islands of the Pacific

DEPARTMENT OF PLANNING AND ECONOMIC DEVELOPMENT
STATE OF HAWAII
NO. 111



PACIFIC BASIN DEVELOPMENT CONFERENCE
CONFERENCE ORGANIZATION

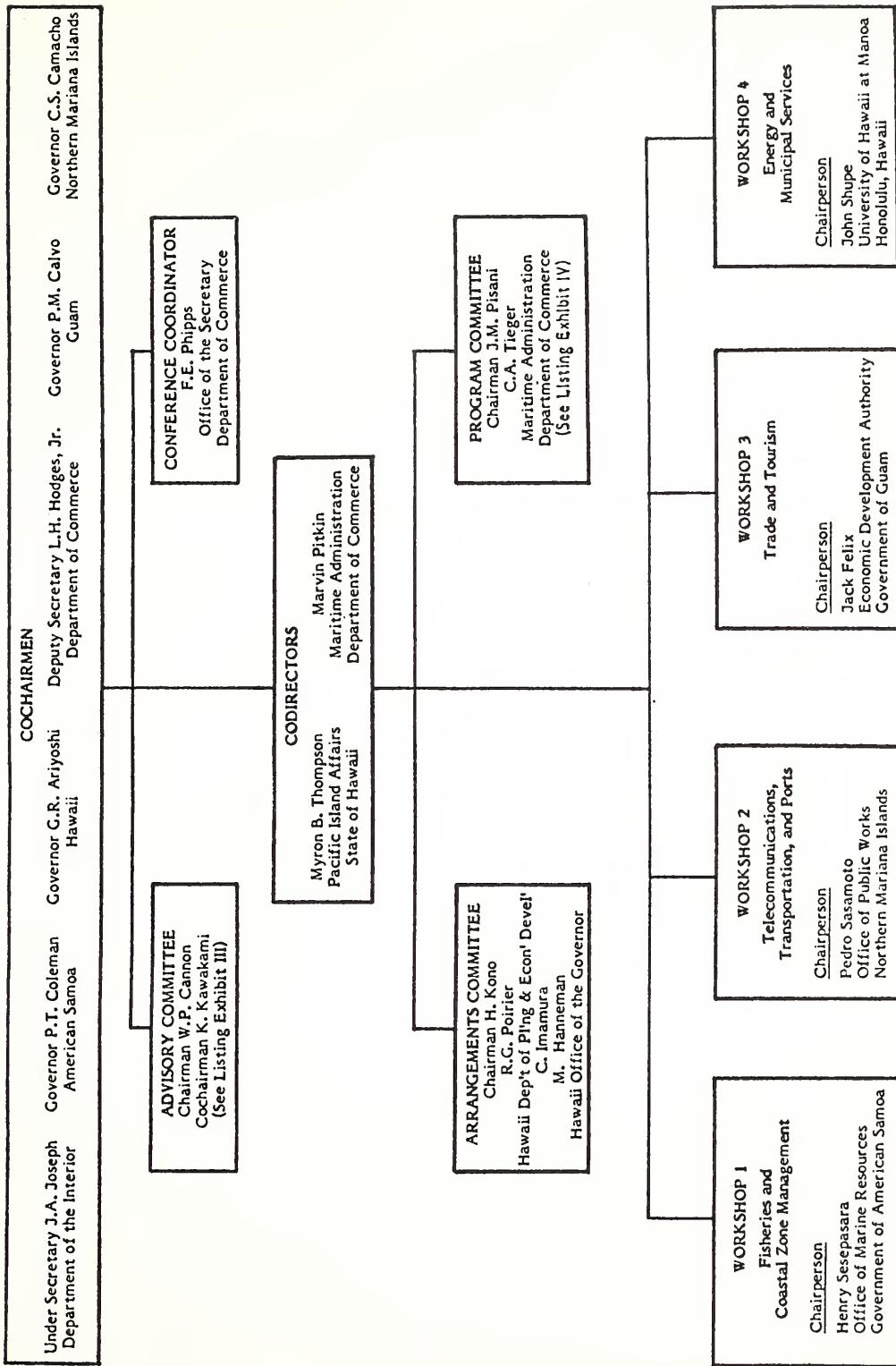
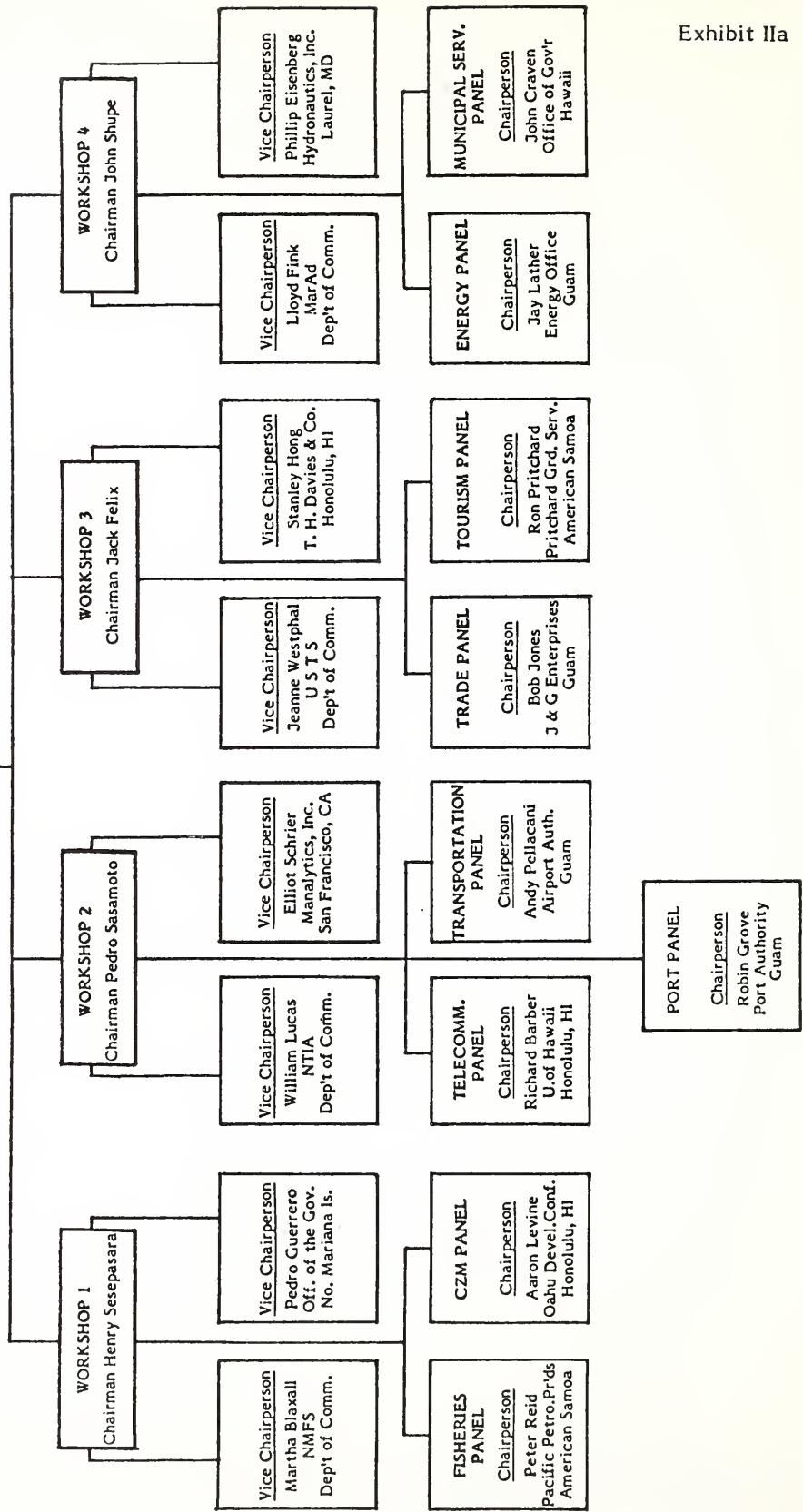


Exhibit II

PACIFIC BASIN DEVELOPMENT CONFERENCE
CONFERENCE ORGANIZATION
(CONTINUED)



Pacific Basin Development Conference

ADVISORY COMMITTEE REPRESENTATIVES

Chairman
Wilson P. Cannon

Co-Chairman
Keiji Kawakami

BUSINESS AND ACADEMIA

Walter A. Abernathy	Executive Director, Port of Oakland, CA
Peter Ada, Jr.	President, ADA'S, Inc., Guam
G. E. Bart	Senior Vice-President, Marketing, American President Lines, Ltd., Oakland, CA
Dr. Mary G. F. Bitterman	Chairman, Board of Directors, East-West Center, Honolulu, HI
Edward M. Calvo	President, Calvo Enterprises, Inc., Agana Guam
Wilson P. Cannon	Chairman of the Board and Chief Executive Officer, Bank of Hawaii, Honolulu, HI
Harold Cary	U. S. Tuna Foundation, San Diego, CA
Herbert C. Cornuelle	President, Dillingham Corporation, Honolulu, HI
William Cravens	Vice-President and General Manager, Polynesian Cultural Center, Laie
C. L. French	President, National Steel and Shipbuilding Company, San Diego, CA
Chuck Y. Gee	Dean, School of Travel Industry Management, University of Hawaii at Manoa, Honolulu, HI
Allen F. Hoss	Regional Vice-President, Western Airlines, Honolulu, HI
Kenneth T. Jones, Jr.	President & Chairman of the Board, J&G Enterprises, Inc., Agana, Guam
Keiji Kawakami	President, Iolani Sportswear, Ltd., Honolulu, HI
Stanley C. Kennedy, Jr.	Regional Vice-President, Continental Airlines, Honolulu, HI
H. Rex Lee	Chairman, Public Service Satellite Consortium, Washington, D. C.
Peter L. Reid, Jr.	President, Polynesian Shipping Company Pago Pago, American Samoa
Hon. Wadsworth Yee	Chairman, Western Fisheries Council/President, Grand Pacific Life Insurance Company, Ltd., Honolulu, HI

CONGRESS

Hon. Daniel I. Akaka	U. S. Representative, Washington, D. C.
Hon. Phillip Burton	U. S. Representative, Washington, D. C.
Hon. Don H. Clausen	U. S. Representative, Washington, D. C.
Hon. Cecil L. Heftel	U. S. Representative, Washington, D. C.
Hon. Daniel K. Inouye	U. S. Senator, Washington, D. C.
Hon. J. Bennett Johnston	U. S. Senator, Washington, D. C.
Hon. Robert J. Lagomarsino	U. S. Representative, Washington, D. C.
Hon. Spark M. Matsunaga	U. S. Senator, Washington, D. C.
Hon. James A. McClure	U. S. Senator, Washington, D. C.
Hon. Antonio B. Won Pat	Delegate to Congress, Washington, D. C.

LABOR

Robert E. Juliano	Hotel & Restaurant Employees and Bartenders International Union, Washington, D. C.
Ed Turner	Vice-President, Seafarers International Union, San Francisco, CA
John Royal	Fisherman's Local No. 33, ILWU, San Pedro, CA

GOVERNMENT

William Arntz	Regional Representative, Region IX, Department of Energy, San Francisco
David W. Crosland	Acting Commissioner, U. S. Immigration and Naturalization Service, Washington, D. C.
Joseph Pereira	Director, Office of Economic Development and Planning, Office of the Governor, Pago Pago, American Samoa
Manuel A. Sablan	Planning and Budget Affairs Officer, Office of the Governor, Saipan, Northern Mariana Islands
Ace Tago	Director, Budget and Planning, Office of the Governor, American Samoa
Ruth G. Van Cleve	Director, Office of Territorial Affairs, Department of Interior, Washington, D. C.

MILITARY

Brig. Gen. Henry J. Hatch	U. S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii
Admiral Robert L. J. Long	U.S.N., Commander-in-Chief, Pacific, Camp H.M. Smith, Hawaii

MILITARY (cont.)

Rear Admiral Albert P. Manning	Chief, Office of Research and Development, U. S. Coast Guard, Washington, D. C.
Col. Sharman R. Stevenson, USAF	Chairman, Honolulu, HI-Pacific Federal Executive Board, Honolulu, HI

THE WHITE HOUSE

Jeffrey Farrow	Domestic Policy Staff, The White House, Washington, D. C.
----------------	--

Pacific Basin Development Conference
PROGRAM COMMITTEE

John Pisani, Program Committee Chairman
Maritime Administration, Department of Commerce

George Bamba, Office of the Governor, Guam
Mary Dee Beall, Region IX, Department of Commerce
George Beckerman, Office of the Associate Deputy Secretary, Department of Commerce
Martha Blaxall, National Marine Fisheries Service
David Cahn, Department of Commerce and Labor, Northern Marianas
Delores Davies, Industry and Trade Administration
Joseph Diego, Department of Commerce, Guam
Bert Englehardt, U. S. Travel Service
John Everett, National Marine Fisheries Service
Jeffrey Farrow, The White House
Robert Garland, Office of the Representative to the U.S., Northern Marianas
Doyle Gates, National Marine Fisheries Service
Felicia Gillette, Economic Development Administration
Tucker Gratz, International Trade Administration
Herman Guerro, Office of the Representative to the U.S., Northern Marianas
Allen Haile, Region IX, Department of Commerce
Mufi Hanneman, Office of the Governor, Hawaii
T. J. Hopkins, Department of Energy
Roger Hutchinson, National Marine Fisheries Service
Robert Iverson, National Marine Fisheries Service
Phyllis Lamphere, Economic Development Administration
Laurie Loomis, Office of Senator Inouye
William Lucas, National Telecommunications and Information Administration
Richard Millier, Department of the Interior
Eileen Mulany, Office of Coastal Zone Management, NOAA
John O'Donnell, Office of Coastal Zone Management, NOAA
Jack O'Neill, National Telecommunications and Information Administration
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Frederick Ricci, Economic Development Administration
Manuel A. Sablan, Office of the Governor, Northern Marianas
Ace Tago, Office of the Governor, American Samoa
Myron B. Thompson, Office of the Governor, Hawaii
Carolyn Tieger, Maritime Administration, Department of Commerce
Jeanne Westphal, U. S. Travel Service
James Wolf, National Oceanic and Atmospheric Administration

Pacific Basin Development Conference
February 17-20, 1980 Kuilima, Hawaii

CONFERENCE AGENDA

Conference Coordinator
Frances E. Phipps

Codirectors

Myron Thompson Marvin Pitkin

SUNDAY

February 17

1:00 pm - 2:30 pm	<u>CONFERENCE MANAGEMENT MEETING</u>
3:00 pm - 8:00 pm	<u>CONFERENCE REGISTRATION</u>
6:00 pm - 8:00 pm	<u>RECEPTION</u>
6:30 pm - 7:30 pm	<u>WELCOME: EXCHANGE OF GIFTS</u>
8:00 pm - 9:00 pm	<u>"THE PACIFIC" - SLIDE PRESENTATION</u>

MONDAY

February 18

8:00 am - 8:30 am	<u>LATE REGISTRATION</u>
9:00 am - 10:00 am	<u>OPENING PLENARY SESSION</u>
	White House Presentation: Jeffrey Farrow, Domestic Policy Staff
	Conference Welcome: Governor George R. Ariyoshi - Hawaii Governor Paul M. Calvo - Guam Governor Carlos S. Camacho - Northern Mariana Islands Governor Peter T. Coleman - American Samoa
	Introduction: Marvin Pitkin, Assistant Administrator Maritime Administration Department of Commerce
	Opening Address: Luther H. Hodges, Jr., Deputy Secretary Department of Commerce
10:00 am - 10:30 am	<u>WORKSHOP INSTRUCTIONS</u>
10:30 am - 12:00 noon	<u>PANEL SESSIONS</u>

CONFERENCE AGENDA

MONDAY

February 18 Continued

12:00 noon - 1:30 pm

LUNCHEON

Introduction:

Frances Phipps, Special Assistant for
Intergovernmental Programs
Office of the Secretary
Department of Commerce

Luncheon Address:

Wilson Cannon, Chairman of the Board
Bank of Hawaii; Chairman, PBDC Advisory Committee

1:30 pm - 5:00 pm

PANEL SESSIONS

5:00 pm

CONFERENCE MANAGEMENT MEETING

6:00 pm

DINNER AND SHOW

Polynesian Cultural Center

TUESDAY

February 19

8:30 am - 9:00 am

PLENARY SESSION

Introduction:

Peter Reid, President
Polynesian Shipping Company, Pago Pago

Plenary Address:

Richard Frank, Administrator
National Oceanic and Atmospheric Administration
Department of Commerce

9:30 am - 12:00 noon

PANEL SESSIONS

12:00 noon - 1:30 pm

LUNCHEON

Introduction:

Greg Sanchez, General Manager
Port Authority of Guam

Luncheon Address:

James Joseph, Under Secretary
Department of the Interior

1:30 pm - 5:30 pm

PANEL SESSIONS

5:30 pm

CONFERENCE MANAGEMENT MEETING

C O N F E R E N C E A G E N D A

TUESDAY

February 19 Continued

7:00 pm - 8:00 pm

RECEPTION/BANQUET

Introduction:

Manuel Sablan, Planning & Budget Affairs Officer
Office of the Governor, Northern Mariana Islands

Banquet Address:

Fred Ricci, Special Assistant to the
Assistant Secretary for Economic Development
Department of Commerce

WEDNESDAY

February 20

9:00 am - 11:00 am

PLENARY SESSION -- WORKSHOP REPORTS

11:00 am

SUMMARY AND CLOSING REMARKS

CONFERENCE ADJOURNMENT

MEMORANDUM OF UNDERSTANDING

This Agreement, made this 17th day of February 1980, by and among PETER TALI COLEMAN, Governor of American Samoa, for the TERRITORY OF AMERICAN SAMOA; PAUL CALVO, Governor of Guam, for the TERRITORY OF GUAM; CARLOS CAMACHO, Governor of the Northern Mariana Islands, for the COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS; and GEORGE R. ARIYOSHI, Governor of Hawaii, for the STATE OF HAWAII; hereinafter collectively referred to as the "THE GOVERNORS":

WITNESSES THAT:

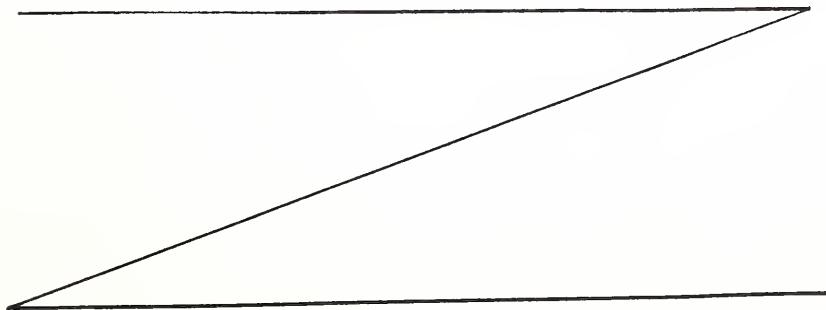
WHEREAS, THE GOVERNORS, together with key representatives of Federal agencies and the private sector are meeting in Honolulu, Hawaii, on February 17-20, 1980, to identify and assess development needs of the Pacific Islands and to examine various regional development strategies;

WHEREAS, the conference in Honolulu manifests the genuine desire of THE GOVERNORS to work cooperatively in providing for the comprehensive economic and social development of the Pacific Islands;

WHEREAS, THE GOVERNORS are desirous of creating a mechanism through which they can act collectively, and in cooperation with the Federal government to enhance the quality of life in the Pacific Islands and to address socio-economic and other needs of the Pacific region;

NOW, THEREFORE, the parties hereto agree to accomplish the following:

1. To form a Pacific Basin Development Council (hereinafter referred to as the "new organization") in conformity generally with Exhibit "A", attached hereto and incorporated by reference;
2. To consider the integration into, and incorporation under the new organization as soon as possible, all functions and activities of existing U.S. Pacific Islands regional organizations to which THE GOVERNORS now belong; provided that consideration shall also be given to determining the most feasible means of establishing working relationships or affiliations with other neighboring Pacific Islands nations in mutually beneficial regional development efforts;
3. To designate by March 1, 1980, a staff member to serve as his personal representative in facilitating the planning, development, and implementation of the new organization;
4. To review and approve by May 1, 1980, the basic structural details for the new organization, including its legal status, procedures for incorporation, and interim staffing arrangement;
5. To determine by July 1, 1980, the necessary funding, staffing pattern, and structure for the new organization; including, but not limited to, operational procedures, decision-making processes and mechanisms, initial contributions, and other administrative details; and
6. To implement the new organization by September 1, 1980.



IN WITNESS WHEREOF, the parties hereto have executed
this Memorandum of Understanding as of the day and year first
above written.

TERRITORY OF AMERICAN SAMOA

By 
Its Governor

TERRITORY OF GUAM

By 
Its Governor

COMMONWEALTH OF THE NORTHERN
MARIANA ISLANDS

By 
Its Governor

STATE OF HAWAII

By 
Its Governor



PACIFIC BASIN DEVELOPMENT CONFERENCE



Designing a Framework of Shared Responsibility for
Growth and Development

CONGRESSIONAL BRIEFING

April 2, 1980 3-4:00 p.m.

Capitol Building East Front 100
Washington, D.C.

3:00 p.m.	<u>WELCOME</u> <u>Frances Phipps</u> , Pacific Basin Conference Coordinator, Office of the Secretary, Department of Commerce
3:05 p.m.	<u>OPENING REMARKS</u> <u>Daniel K. Inouye</u> , Senator, Hawaii
3:10 p.m.	<u>OPENING REMARKS</u> <u>Don H. Clausen</u> , Congressman, Second District, California
3:15 p.m.	<u>DEPARTMENT OF COMMERCE</u> <u>Luther H. Hodges, Jr.</u> , Deputy Secretary
3:20 p.m.	<u>PRESENTATION: AMERICAN SAMOA</u> <u>Peter T. Coleman</u> , Governor
3:25 p.m.	<u>PRESENTATION: NORTHERN MARIANA ISLANDS</u> <u>Francisco Ada</u> , Lt. Governor
3:30 p.m.	<u>PRESENTATION: GUAM</u> <u>Joseph Ada</u> , Lt. Governor
3:35 p.m.	<u>WHITE HOUSE PRESENTATION</u> <u>Jeffrey Farrow</u> , Domestic Policy Staff, The White House
3:40 p.m.	<u>DEPARTMENT OF THE INTERIOR</u> <u>Wallace O. Green</u> , Acting Assistant Secretary for Ter- ritorial and Intergovernmental Affairs
3:45 p.m.	<u>DEPARTMENT OF ENERGY</u> <u>Richard Stone</u> , Director of Intergovernmental Affairs
3:50 p.m.	<u>U.S. COAST GUARD</u> <u>Bernie E. Thompson</u> , Rear Admiral, Washington, D.C.
3:55 p.m.	<u>TUNA RESEARCH FOUNDATION</u> <u>John Mulligan</u> , Washington, D.C.
4:00 p.m.	<u>CONFERENCE RECOMMENDATIONS</u> <u>Marvin Pitkin</u> , Assistant Administrator for Co... rcial Development, MARAD, Department of Commerce

OPENING REMARKS (EXCERPTS)

by Jeffrey Farrow
White House Domestic Policy Staff

I have a brief message from the President, signed February 14, 1980, the day he issued his Territorial Policy. "To the Pacific Basin Development Conference, I want to commend the efforts of those who are joining in this Pacific Basin Development Conference to lay a foundation for greater and more effective regional development in the Pacific. At long last, our government is joining, in full partnership, the Island governments and the private sector to develop a sound and workable plan for promoting the area's economy. My Administration has placed great importance on the development of the nation's first comprehensive policy for the Insular Territories. Such a policy will bring about greater economic self-reliance, and growth in a region which has tremendous potential for both. Out of this Conference, strongly supported as it is by governmental and private elements, will come the sturdy framework for progress. I assure you that foremost in all of these efforts, will be our commitment to maintaining balance in future growth. We must always take care to preserve and enhance the unique culture, quality and beauty of your region. With this in mind, I wish you a successful meeting." Signed, Jimmy Carter.

OPENING REMARKS (EXCERPTS)

by George R. Ariyoshi
Governor of Hawaii

Granting of independence and the birth of a new republic out in the South Pacific is to some extent the result of the President of the United States and his belief that there are more and more people out there who are seeking self-determination. And it is not possible for a superpower, such as we are, to try to keep those nations suppressed. We must do everything possible to make it possible for people to seek and go after their own destiny. These are the things I see happening in the Pacific Basin. And I am grateful that the Federal Government is moving more and more in this direction.

Every Governor who is present here had a chance to participate and identify those issues he considers to be important. And hence, this Conference, as I look at the program and the issues involved, will be addressing those things I consider, from my point of view as Governor of this State of Hawaii, to be very valuable and, to be put very simply, the bread and butter issues that affect our citizens and our communities.

The fisheries and marine-related issues, the issues of energy, of tourism, and of telecommunications; these things that are very, very vital to all of us who are residents of these Pacific Islands. And I am very grateful that the planners of the Conference, and particularly the Federal government, are willing to go along and leave in our hands the determination of those issues that will be taken up here in this Conference.

I am also very grateful, as I look out here, and I see the great participation of those of you who represent the private sector. That to me is very essential, because no matter what we attempt to do in my State, in our country, and any of the Territories, unless we have the participation and support of the private sector, we are not going to be able to accomplish the things we want to do. I believe that government has a role to play in these areas; I believe that government must be able to meet with you, to discuss the mutual concerns and the desires, to be able to provide the proper support, research and the development and in some instances, the market feasibility, the product promotion, the marketing aspects which are so necessary for us to start any new venture.

OPENING REMARKS (EXCERPTS)

by Paul M. Calvo
Governor of Guam

This conference brings together a variety of significant interests. I know that there are many emerging Island nations throughout the Pacific which, although neither participants nor cosponsors of this Conference, are looking to this meeting for the advice and benefits that are supposed to emerge.

We, as Governors, approached this Conference by identifying our mutual needs and addressing ourselves to the role of the Federal government in the treatment of the Territories.

However, as it turns out, this Conference is a culmination and discussion of a broad range of other topics which have not been anticipated. One example is the new Territorial Policy of the President just announced by representatives here today.

It is important to keep in mind that not only do we as Governors represent our Islands, but we also represent the United States as windows in the Pacific to the Continent of Asia. We are Americans on American soil but at the same time, we are so close to Asia that we are almost Asian. And, I think that the role of the Federal government, as it relates to Guam, the Northern Marianas, American Samoa, and the great State of Hawaii, is a shining example as to how the nations in Asia, that are sometimes critical of our government, should view the United States.

This economic development Conference will obviously be of great benefit to the Territories and for the States. However, we must envision it as more than welfare grants and programs that we are going to solicit. It is more than that; it is the goodwill ambassador role that each of us should play as we leave the Pacific.

OPENING REMARKS (EXCERPTS)

by Peter T. Coleman
Governor of American Samoa

I think the following story illustrates the position and perception of the Territories by the people who reside there.

One of our Tribal chiefs visited the Office of the Governor. Upon entering he pointed to the wall and asked the Governor's secretary, "What is that?" The secretary replied, "It is a map of the world." The chief then asked, "What is this big part?" The secretary replied, "The United States." "Where is Australia?" he asked. "This large mass over here," she said. "And Asia?" She pointed out Asia. "And where is American Samoa?" The secretary pointed to a little dot. "You mean to tell me that little dot is American Samoa?" "Yes," said the secretary. The chief exclaimed, "Who make the map?!"

This represents the spirit of pride we have in the Pacific Basin, and today we are going to make a map together. We all have a role. All of us from the various Territories have brought our special teams with us to work with you in creating a map for economic development for the Pacific Islands.

We are happy with the United States. We have no problems with our loyalty or our rights as guaranteed by the United States Constitution. In Samoa, there is even a special relationship based on a treaty of cession with the United States, which provided for the acquisition of our Island through a treaty of friendship.

We have been working with our Island neighbors, not only in terms of economic development, as in fisheries, but also in providing advice on some of their needs. So, today I am happy that we are gathered here with distinguished guests from the Federal government and private sector in a working partnership for which this Conference has been designed.

OPENING REMARKS (EXCERPTS)

by Carlos S. Camacho

Governor of the Commonwealth of the Northern Mariana Islands

We can see that our Islands, because of their location, are strategic and are needed by our Federal government, for they can be expected to make (in fact, even now are making) contributions to the security, peace, and prosperity of this hemisphere that vastly exceeds their tiny land mass, per capita income, etc. We take pride in this observation, but we would also assert that this contribution of the Northern Mariana Islands can be vastly increased and its continuity assured if, and only if: (1) these islands are brought from their present demeaning welfare state to a state of proud, economic self-reliance; and (2) the people of these islands are brought into true partnership and understanding and shared responsibility with the parent government; and (3) the unique situation is recognized by tiny, remote islands that possess no natural (exportable) resources whatsoever once the use of the ocean -- of their own surrounding ancestral ocean -- is denied to them or is severely limited.

I think that it is correct for me to assume that most of you, at the beginning of this meeting, possess no more understanding of the complexities and urgencies for survival on these tiny islands, than we possessed of life, business, and government in the United States mainland before we started making our frequent trips to visit you. Let me illustrate. When I stand on one of your seacoasts and look back over my shoulder, I become a sort of Walt Whitman, for I see boundless farmlands, great forests, mountains rich in mines; I see prairies covered with factories; I see into a nation's very source of sustenance and strength. This is an amazing spectacle and it fills me with amazement, wonder and awe. But when I stand on any one of our Islands' seacoasts and look back over my shoulder, I see only the other side of the island, for our islands are simple specks on the map that designate geographic ocean areas. True, these specks are our residential areas, and our homes are here, but the surrounding ocean is our source of life and our strength just as it always has been. The ocean is, indeed, our "farmland", our "industry", our "business".

OPENING ADDRESS (EXCERPTS)

by Luther H. Hodges, Jr.
Deputy Secretary, U.S. Department of Commerce

All of us -- from whatever place, from whatever background -- are joined together to pursue a common goal: the creation of a development strategy for the Pacific Basin that involves both government and the private sector, a strategy that makes maximum use of the considerable resources of this region and the resourcefulness of its people.

In preparing for this Conference, we have looked to the Governors to identify your most important Regional priorities. With their guidance, and with the assistance that many of you have provided, we have identified the issues that matter most to the development of the Pacific Basin -- energy, fisheries development, port development and surface transportation, telecommunications, tourism and trade. These issues frame the Conference agenda that you will be addressing for the next three days. We have been impressed especially by the Governors' comments on the fragmented, uncoordinated and inadequate nature of Federal policy toward the Region. We have heard them voice their hopes for a Regional Development Council that would involve

both the Federal government and the private sector. This Council would serve as the structural centerpiece for the development process that will be fashioned from the recommendations of this Conference. We have examined the proposal carefully, and I am pleased to announce that we at the Commerce Department have decided to support the Governors' request. We will be working closely with the Governors in the coming months to make this promise a reality.

To start, our Commerce Department's Economic Development Administration has budgeted \$150,000 for the Pacific Basin Development Council for its first year, with the Governors matching that sum. This is, I think, a positive concrete first step. Too often in the past, government has been guilty of a self-defeating kind of arrogance. It has acted as if it and it alone had the answers. Today, we know that it doesn't. It's clear that the private sector, with its knowledge and resources, has an indispensable role to play in the economic development process. What we need is a partnership that draws on the talents and resources of everyone.

This Region, the Pacific Basin, is an area of uncommon beauty, its people among the most gracious in the world. Odd as it may seem, these attributes have often worked to its disadvantage. Those of us on the Mainland, particularly those of us in the nation's capital, have tended to idealize this Region -- when we have thought of it at all. Our perceptions have been highly selective; we have seen only what we have wanted to see, ignoring the rest. And so, the beauty of the Islands has blinded us to the imbalance in the Region's economy, the lack of opportunity for its citizens, the need for a greater sense of economic self-sufficiency. Our view today is somewhat clearer, less distorted, more realistic, and your presence here is the surest sign that anyone could ask that a change of policy is at hand. In fact, the change has already begun.

LUNCHEON ADDRESS (EXCERPTS)

by James A. Joseph
Under Secretary, U.S. Department of the Interior

Managing change is a key ingredient and a necessary prerequisite of social and economic development. This means that all of us working together will have to plan carefully, lobby persuasively and use scarce resources creatively if we are to achieve a fuller measure of self-sufficiency for the American territories.

And it is for this reason that I am pleased to address this Pacific Basin Development Conference shortly after President Jimmy Carter has announced a comprehensive policy to guide the Federal government in assisting and promoting development in the Territories.

Last week, after more than a year of work by an interagency task force, which I had the distinct pleasure of chairing, the President announced this Administration's policies in a message to the United States Congress.

1. The policy clearly recognizes and seeks to protect the unique cultural heritage of the various Territories.
2. The policy is a framework, a comprehensive effort which focuses on fostering the overall social, economic and political development of the Territories.
3. To carry out his directives, the President has called for the appointment of an Assistant Secretary responsible for Territorial Affairs, and has re-emphasized the role of the Secretary of the Interior as his spokesman on Territorial issues.
4. The President has made it clear that the Federal government will respond at any time to requests from Territorial governments to discuss issues of self-determination. He also expressed his support of the peoples of Guam and the Virgin Islands, should they elect to continue in their efforts at drafting constitutions.
5. Consistent with a major emphasis of this new policy, the Federal government, in cooperation with the Congress and Territorial Representatives, will thoroughly review the application of Federal laws to Guam, American Samoa, and the Virgin Islands, and will likewise seek to remove all constraints on Territorial development -- particularly economic development.

Further, on the point of economic development, the President has directed that greater emphasis be placed on attracting and assisting in the promotion of private sector investment throughout the Territories. In cooperation with the Economic Development Administration, this effort will be a high priority of the new Assistant Secretary for Territorial Affairs. The Deputy Secretary of Commerce and I will sign a Memorandum of Agreement which will outline how we are to work together to assure that all of our collective efforts focus upon development and increased self-sufficiency as a primary goal.

LUNCHEON ADDRESS (EXCERPTS)

by Wilson P. Cannon
Chairman, Board of Directors, Bank of Hawaii

The fact that China has once again joined the Family of Nations, and China is a Pacific community, has focused the eyes of the world upon the Pacific like nothing else could have done. As a result, in the Pacific everyone has to go back and do his homework again, realize what it was, what it did, and it's one of the great reasons we are here today.

Here we are again, with the American Islands working hand-in-hand, but this time with very meaningful relationships and partnerships with the Federal government. I do not think any of us here realize the significance of the entry of our Federal government as a partner in this whole endeavor. And I think that this is going to be the reason for enormous growth and sustained expansion in the Pacific. And I think all of us are grateful that this has happened. I think we have our hopes and our concerns. One of them is that I hope a lot of Washington's decisions are made with the help of people from the Pacific.

These background papers we are looking at during these days, today and tomorrow, are outstanding. For example, there is an article in the Trade Workshop that calls for regularly scheduled seminars and practical workshops in each of the Pacific areas. And just getting that underway would be a magnificent success for a one or two day seminar.

And while we are doing that, let's expand Hawaii's Field Office, and let's perhaps think of putting satellite members in each of the American Islands to help and assist. Let's aid and expand Export Offices to bring the private communities of these areas into play and involve them. These things can be done easily, although there are many of you in this room who have seen the Industrial Exhibition Center in Shanghai. As you know, this is a year-round display case. The products and the opportunities available in the area are shown to prospective buyers.

The Pacific also needs a permanent, easy to visit showcase to display American products and services to Asian buyers, and to display Asian products to the Amercian market. As we all know, a permanent center like that needs to be located where airlines, hotels and other facilities would permit maximum use and maximum acceptance. The initial question of where it is, is not the important question. The initial response is, let's do it; let's get one. And while we are putting it together, then let's figure where it ought to be. Put it where is should be best.

PLENARY ADDRESS (EXCERPTS)

by Richard A. Frank
Administrator, National Oceanic & Atmospheric Administration

The most pervasive influence on development in the Pacific Basin is the vast expanse of ocean that surrounds the Islands. This expanse has posed problems, such as the high cost of transportation. But these waters also contain a fishery resource that will provide significant economic growth when expanded to its maximum potential. It is that potential that sets forth the challenge to us. Investment cannot be attracted until we know the extent and nature of the resource. But adequate data on the fisheries resources in the Pacific Basin is simply not available. NOAA is obtaining this information by undertaking several resource assessments.

With adequate data, expansion of the fishing industry can be promoted through various programs. NOAA's relationship with the Pacific Tuna Development Foundation is one example. The Foundation, composed of representatives of private industry and the governments of the Islands, has received substantial funding from us to study the development of the tuna resource, as well as other species, in the Pacific Region.

Today, I am pleased to announce the award of approximately \$2.5 million to the Pacific Tuna Development Foundation for its 1980 program. This program promises to contribute measurably to the development needs of all the Pacific Islands. Let me mention just a few examples of the projects to be funded through this contract:

- Guam and the Northern Mariana Islands will be the recipients of an award to explore and develop the sea mount fisheries.

- Guam will receive funds to establish a fishing cooperative and marketing system.
- In the Northern Marianas, funds will be provided to foster a coastal shark fishery.
- In American Samoa, we are providing funds to further the adoption of a proven method for aggregating tuna in local waters for the benefit of coastal fishermen.
- Here in Hawaii, a project will focus on developing bait for use in tuna fishing.

Another of our priorities, in this region is the Coastal Zone Management Program, a cooperative Federal/local effort under which NOAA provides funds to State and Island governments to develop prudent coastal zone management plans. If a plan is approved as meeting Federal guidelines to protect coastal resources, NOAA funds the program's implementation.

Hawaii and Guam have approved coastal zone plans, and I anticipate that the plans for American Samoa and the Northern Marianas will be approved this year. I am gratified that all four Island governments at the Conference appreciate the utility and potential of the Coastal Zone Management Program to manage the coastal resources in the Pacific Region.

BANQUET ADDRESS (EXCERPTS)

* by Frederick A. Ricci

Special Assistant to the Assistant Secretary for Economic Development

There have been a number of themes -- major issues -- that have been addressed in the last few days. All of which, at least in my view, is part of the process of economic development. We recognize that there are differing capacities, resources, interests, and strengths in the varying Islands. And we're willing to deal with that; also, we're willing to cooperate on this emerging Regional strategy that is underway. EDA has been an active partner with the various Island entities. We have committed over \$80 million in the history of EDA, in a range of projects -- public works, technical assistance, business loans, etc. -- and we look for more in the future. So we think we are fairly familiar with Island problems and opportunities.

Luther Hodges, earlier, talked about a comprehensive view of development, not one that focused simply on education or political development. We certainly support that approach in the Economic Development Administration. I think of it as, being a good Catholic boy from Boston, the essential trinity in any economic development context; you have to have political leadership, such as the Governors who are here, to provide the vision and the perspective for economic development. A capable staff that can make the vision into a plan, applications, and so forth. Thirdly, you need a private sector that is actively and positively involved. That is evident here at this Conference and from the EDA point of view, we want to make our investments in such a way that complements what you are trying to achieve.

We recognize the real constraints, the economic reality of the Islands, the tyranny of distance, the problems of communication, the fact that in some of the communities the basic infrastructure for economic development is not in place. The well meaning, the inappropriate efforts of the past -- or the neglect -- depending on how you want to look at them, and these are factors which enter into play as we go forward. The upshot of the Conference and the kinds of discussion which I have observed and sat in on are constructive in so many ways. Not the least of which I see, is a willingness to examine and to ask basic questions about how effectively we are committing and using the money that is already available. Looking for ways of modifying, perhaps, the funding patterns that already exist; involvement of other individuals, and companies, and resources; of the willingness to strike a balance between the development opportunities and needs and the future and the environment. A general willingness to do things more efficiently and cooperatively. Much has been accomplished and clearly much needs to be done.

Let me speak for a moment about the potential under the expanded EDA program that I mentioned. The overwhelming majority of our expanded program is in the development finance field. We will have close to two billion dollars this fiscal year, and three billion dollars next fiscal year, in direct loans and loan guarantees. The emphasis is in cooperation with the private sector. It is important to point out I think that there has been very little expansion in the Federal budget, except for the EDA program. So you have, I think, another example of the commitment of this Administration to bonafide economic development programs in a time of generally limited budgets.

P A C I F I C B A S I N D E V E L O P M E N T C O N F E R E N C E

F I N A L R E P O R T

Section III

- A. Workshop/Panel Organization and Operations
- B. Workshop/Panel Reports and Program Elements

A. WORKSHOP/PANEL ORGANIZATION AND OPERATIONS

Workshop/Panel Organization

The Pacific Basin Development Conference was organized into four major workshops, each containing panels that addressed a specific issue of concern to the American Pacific Islands. These panels were: Fisheries Development and Coastal Zone Management (Workshop 1); Telecommunications, Port Development and Transportation (Workshop 2); Trade and Tourism (Workshop 3); and Energy and Municipal Services (Workshop 4). The workshop/panel operations plan is shown in Figure 1, at the end of this sub-section. Each panel averaged 30 or more participants from a broad range of interests including Island and Federal governments, business/industry and labor, academia, and special interest groups for a total of 273 panel participants.

Each of the four workshops was chaired by an Island representative assisted by two vice-chairpersons, one each from the private sector and the Federal government (refer to major organization chart on page 21). Each of the nine panels, which comprised the four workshops, was also chaired by an Island representative. The leadership of each workshop and panel was assisted by consultants from Payne-Maxie Consultants and/or A.T. Kearney, Inc. and selected Department of Commerce professionals. Additionally, each panel was provided with resource persons who made brief presentations to the panels at the start of deliberations.

The workshop and panel leaders met each evening with the Conference management and staff to review progress, resolve problems, coordinate efforts and most importantly, exchange ideas regarding the best approaches to be utilized in reaching the Conference goals.

Workshop/Panel Operations

Prior to the Conference, the sponsoring agencies and participating organizations prepared a set of some 200 suggested program elements to serve as a starting point for each panel's work. A program element is a brief description of a program or project which includes a problem definition, plans of action, probable costs and schedule to address the opportunities for and barriers to Pacific Basin development.

These suggested elements covered a range of problem areas. In determining the final recommended five-year program, each panel modified, combined, or rejected the suggested program elements and developed new program elements as appropriate. Consideration was given to the duration and budget of each element. Institutional constraints were identified and discussed in order to make recommendations for necessary changes in public policy to carry out the accepted program elements or implement the results.

The panel established the relative priorities for various elements of the recommended five-year program. Close cooperation among panel participants, representatives from the Islands, Federal government and industry provided a sound basis for determining how to allocate most effectively potentially available resources.

Three priorities were utilized to rank the program elements:

Priority Number 1 are those significant projects that the Islands, Federal agencies, and industry, either alone or in cooperation, should undertake immediately with only nominal regard for the development, integration, and implementation of a final long-range program.

Priority Number 2 are those projects that the Islands, Federal agencies, and industry, either alone or in cooperation, should undertake as specific efforts in a final long-range program.

Priority Number 3 are those projects that the Islands, Federal agencies, and industry should undertake as back-up projects as available resources permit.

To determine one of the above priorities in a consistent manner, each program element was rated on each of five criteria. These criteria are:

1. Importance of the problem.
2. Breadth of the program.
3. Impact of the program element results toward solving the problem.
4. Probability of success that desired results can be obtained and implemented.
5. Relative cost of the project and the implementation of the results.

Each workshop panel then assigned priorities, scheduled five-year costs, identified constraints and lead agency responsibilities for each program element. Additionally,

due to the nature of the final recommendations in terms of budgetary implementation, each panel also divided the recommended elements into two categories: Basic Programs (research and feasibility studies, information compilation and analyses) and Major Programs (development banks/loan funds, industrial/commercial complexes and demonstration projects/prototypes). For a further explanation of basic and major programs by panel, refer to Results and Recommendations in Section I of this report.

Finally, the panel chairperson submitted a written report of the panel's recommendations and summary of deliberations to the workshop chairperson. The workshop chairpersons and vice-chairpersons reviewed each panel's recommendations with the resource persons and consultant staff and prepared a written report for oral presentation to the Conference-at-large.

The final Conference recommendations for the five-year plan for economic development included 150 program elements. The remainder of this report covers those elements by panel and provides a brief summary as to how each panel arrived at those recommendations.

Figure 1

WORKSHOP/PANEL OPERATION PLAN

	<u>MORNING</u>	<u>AFTERNOON</u>
<u>MONDAY</u> February 18	<ul style="list-style-type: none">o Organize Panelo Review Work Scheduleo Identify Outputs Requiredo Review Criteria & Prioritieso Review Program Elements	<ul style="list-style-type: none">o Revise Program Elementso Identify Constraints
<u>TUESDAY</u> February 19	<ul style="list-style-type: none">o Revise Program Elementso Identify Constraintso Assign Priorities, Cost and Responsibilities	<ul style="list-style-type: none">o Rank Program Elements within Prioritieso Schedule Five-Year Costso Rank Constraintso Develop Recommendationso Prepare Written/Oral Report
<u>WEDNESDAY</u> February 20	<ul style="list-style-type: none">o Present Oral Report and Recommendations	

REPORT OF THE FISHERIES PANEL

Workshop 1, Panel A

GOALS AND OBJECTIVES

The Panel's goal was to cooperatively devise a five-year plan of fisheries development in the Region and for each Island. The Plan would include surveying resources for potential yield, inventorying the activities involved from harvesting to market, analyzing the potential for added markets, establishing investment levels needed for expansion and prioritizing fisheries development needs to derive added economic benefits from ocean fish and other ocean resources. Specific objectives established by the Island representatives were to increase the economic benefit to the American Pacific Islands of the fisheries resources within the Fisheries Conservation Zone and international waters in the Central and Western Pacific; to harvest and process five percent of those resources, defined in terms of landings, processed value, and employment annually by 1990; and to increase harvest and processing to ten percent of the Region's fisheries resources by the year 2000.

ISSUES

The primary Fisheries Development issue was the common problem of the need for financing and facilities (including commercial fishing fleets and port facilities) to sensitively exploit the almost inestimable fish resources of the surrounding ocean. Representatives of each Island group identified constraints to fishery development. For example, Hawaii's constraints to development were market isolation and lack of financing, up-to-date technology and port facilities for commercial fishing fleets; Guam's constraints were the lack of full-time fishermen, fleets and commercial port facilities; American Samoa and the Northern Marianas shared the constraints of no commercial fishing fleets or storage facilities and other infrastructure necessary for extensive commercial fishing -- although, American Samoa possesses two tuna canneries (the largest export commodity), which are supplied by Taiwanese and North Korean fishing fleets.

Despite these constraints, each Island placed a high priority on fisheries development and that emphasis is reflected in the economic development planning documents of the Pacific Basin Island entities. In addition to the Island governments, fisheries development is a major concern of the private sector and Federal government as exemplified by the existence of such multi-representative organizations as the Pacific Islands Development Commission (PIDC), Pacific Tuna Development Foundation (PTDF), the Fisheries Council, etc. These groups all attempts to coordinate the harvesting of the ocean's fish resources via studies, planning strategies and active programs.

PARTICIPATION

The Fisheries Panel aroused the greatest interest among Conference attendees with 54 participants contributing to the Panel discussions, deliberations and recommendations. These participants represented nearly all of the Conference participating groups including 16 Island government representatives, 15 Federal government representatives, 11 representatives from business and labor, two from academia and 10 from public interest groups concerned with fisheries development.

The Assistant Administrator for Fisheries of the National Marine Fisheries Service attended the sessions as a resource person and the Panel Chairmen were assisted by a staff professional from Payne-Maxie Consultants and by the Pacific Region Director of the Economic Development Administration. The following pages list the names and organizational affiliation of the Panel participants.

FISHERIES PANEL PARTICIPANTS

Workshop Vicechair:

Martha Blaxall
Director

Office of Utilization & Development
National Marine Fisheries Service

Panel Chairs:

Pedro Delacruz IA (1)
Director

Peter Reid, Jr. IA (2)
President

Department of Natural Resources
Northern Mariana Islands

G.H.C. Reid & Co., Inc.
American Samoa

Participants: (1)

Louis K. Agard, Jr.	WESTPAC, Honolulu
Tapan Banerjee	National Marine Fisheries, Washington, D.C.
Peter Buchan	Van Camp Seafood, San Diego, CA
John Corbin	Aquaculture Development Program, Honolulu
John Eads	Guam Fishermen Coop
Kenji Ego	Division of Fish & Game, Honolulu
August Felando	American Tunaboot Assocn., San Diego
Robert Garland	Office of the Representative to The United States, C.N.M.I. Washington, D.C.
Doyle Gates	NMFS, Honolulu
Richard Gebauer	Office of The Governor, American Samoa
Andrew J. Gerakas	Pacific Tuna Development Foundation, Honolulu
Robert Hee	Tuna Boat Owners Association, Honolulu
Gerald Howard	NMFS, Terminal Island, CA
Martin Howell	Merchant Marine & Fisheries Comm., Washington, D.C.
Harry Kami	Division of Aquatic & Wildlife Resources, Guam
George Kent	University of Hawaii, Honolulu
James Kurita	Office of Economic Development, Kauai
John Marr	W. Pac. Regional Fisheries Mgmt. Council, Hawaii
Harriet Musick	Office of the Governor, Saipan
David Nada	Dept. of Planning & Economic Development, Honolulu
Billy Max Paul	Department of the Interior, Washington, D.C.

Joan Robey	Tuna Boat Owners Coop
John Robey	Tuna Boat Owners Coop
Lester Roddy	Payne-Maxie Consultants, Berkeley, CA
John Royal	ILWU Fishermen's Union, San Pedro, CA
Alan Ryan	NMFS, NOAA, Washington, D.C.
W.D. Souter	Pacific Tuna Development Foundation, Saipan
Joaquin Villagomez	Department of Natural Resources, Saipan
Henry O. Wendler	Pacific Marine Fisheries Comm., Portland, OR
Larry Wheatley	U.S. Coast Guard, Washington, D.C.

Participants: (2)

David Bortz	Office of the Attorney General, Saipan
Lorenzo Cabrera	Board of Education, Saipan
Paul Callaghan	WESPAC, University of Guam
Fred Camacho	Economic Development Fund, Saipan
John Everett	National Marine Fisheries Service, Washington, D.C.
Benigno Fitial	Legislature of the Northern Marianas
John Harville	Pacific Marine Fisheries Comm., Portland, OR
Robert Iverson	National Marine Fisheries Service, Honolulu
Jerry Kenny	Volcano Isle Fish, Kona
Phyllis Lamphere	Economic Development Administration, Seattle
Ken Larson	Office of the Attorney General, Saipan
Terry Leitzell	Assistant Administrator, NOAA, Washington, D.C.
Howard Ness	National Marine Fisheries Service, San Pedro, CA
Anthony Nizetich	StarKist Foods, Terminal Island, CA
Roger Pflum	WPFMC, American Samoa
A. R. Sablan	Marianas Public Land Corp., Saipan
Wadell Sherman	SPI
Kitty Simons	WPFMC, American Samoa
Robert Smith	IOPA, Guam
Stan Swerdloff	Hawaii Fish & Game, Honolulu
Capt. S. L. Wilson	U.S. Coast Guard, Honolulu

ORGANIZATION & OPERATIONS

The organization and operation of the Fisheries Panel posed some problems due to the large number of participants (54) and program elements (50) to be considered in the relatively short time period scheduled for panel sessions.

To overcome these difficulties the panel chairman had the entire Fisheries Panel review and discuss the program elements and divide them into two topical groups: (1) those related to regional resource assessment(s), economics, financing and education; and, (2) those related to regional resource research, support and development, specific fisheries research, aquaculture and marketing. The participants were then asked to divide into two sub-panels (1-A(1) and 1-A(2)) based on interest and expertise in the two topic areas. One facilitator was assigned to each sub-panel which was chaired by panel Cochairs.

After separate critical reviews, discussions and rankings of the program elements assigned to the sub-panels, the two groups reconvened for discussion of their separate topics. It was decided to present to the Conference, at large, the findings and rankings of the two fisheries sub-panels as separate topic groups.

FISHERIES PANEL I-A (1 & 2)

Program Element Inventory

	(1)	(2)	TOTALS
Suggested Program Elements	19	31	50
Additions and/or Transfers In	2	3	5
Deletions and/or Transfers out	<u>14</u>	<u>26</u>	<u>40</u>
Final Program Elements	7	8	15

PROGRAM RECOMMENDATIONS

The recommendations of the Panel were segregated, as were the sub-panel objectives previously described, to address the discrete concerns of each sub-panel. Sub-Panel A(1) addressed the need for planning strategies (Regionally and by individual Island) for fisheries development including the necessary implementation mechanism, supportive manpower development (education and training) and capitalization (loan funds) needed to initiate and/or expand fishing toward a major Regional/Island industry. Sub-Panel A(2) concerned itself with recommending methods of research to identify and increase potential fish yields, regional marketing systems, technology development and transfer between Islands, improvement of Island fleets by obtaining added U.S. vessel hulls and the creation of various aquaculture demonstration projects.

Of the seven final program elements of Sub-Panel A(1), five were ranked Priority 1, one Priority 2, and one Priority 3. Two program elements (Regional Loan Fund and Port Development) were categorized as Major Programs and the remainder were categorized as Basic Programs. Sub-Panel A(2) recommended the eight program elements as Priority 1, with no designations of Priority 2 or 3. It was assumed that, for the most part, Basic Programs of Sub-Panel A(1) would tend to precede Major Programs. The tables on the following pages detail the program elements, priority ratings, category and five-year estimated costs.

FISHERIES PANEL 1 -A(1)
FIVE-YEAR ESTIMATED PROGRAM COSTS
 (\$000)

<u>PROGRAM ELEMENT</u>	<u>BASIC</u>	<u>MAJOR</u>	<u>TOTAL COST</u>
Priority 1 (Immediate Need)			
1. Regional Fisheries Development & Local Fisheries Development Plan	1,600	-0-	1,600
2. Extension of National Marine Fisheries Services	25	-0-	25
3. Impact Study of U.S. Fishery & Maritime Laws on Fisheries Development in the Pacific Basin Region	100	-0-	100
4. Regional Fisheries Loan Fund	-0-	15,000	15,000
5. Port & Infrastructure Improvements (Am. Samoa, Guam, Hawaii, and No. Marianas)	-0-	72,900	72,900
Sub Totals	\$ 1,725	\$87,900	\$89,625
Priority 2 (Long-Range)			
6. Regional Fisheries Training & Apprenticeships	2,200	-0-	2,200
Priority 3 (Back-Up)			
7. Marine Environmental Vocational Educational Project	1,000	-0-	1,000
GRAND TOTALS (Sub-Panel A(1))	\$ 4,925	\$87,900	\$92,825

FISHERIES PANEL 1-A(2)
FIVE-YEAR ESTIMATED PROGRAM COSTS
 (\$000)

<u>PROGRAM ELEMENT</u>	<u>BASIC</u>	<u>MAJOR</u>	<u>TOTAL COST</u>
Priority 1 (Immediate Need)			
1. Regional Resource Assessment	6,600	-0-	6,600
2. Ciguatera Survey & Research Study	1,425	-0-	1,425
3. Regional Aquaculture Development Plan	1,900	-0-	1,900
4. Fisheries Technology Transfer	500	-0-	500
5. Regional Fisheries Marketing System	640	-0-	640
6. Regional Fish Marketing Information Dissemination	310	-0-	310
7. Accessibility of Small & Medium U.S. Hulls for Regional Domestic Fisheries	40	-0-	40
8. Propagation of Live Bait	-0-	7,775	7,775
Priority 2 (Long-Range)			
No Designations			
Priority 3 (Back-Up)			
No Designations			
GRAND TOTALS (Sub-Panel A-(2))	11,415	7,775	19,190
PANEL TOTALS	16,340	95,675	112,015

OVERALL RECOMMENDATIONS

The Fisheries Sub-Panel A(1) offered the following overall recommendations to the Conference attendees:

1. Regional program elements are those that are common among the three territories and the State of Hawaii. Island specific program elements have been combined to form these regional elements. Each regional element has been ranked and should be immediately undertaken in all territories and the State of Hawaii.
2. Island specific, non-Regional projects will be pursued individually by each Island entity with the appropriate agency.

Sub-Panel A(2) offered these recommendations:

1. Decisions on allocating funds for fisheries development should be made at the local level with appropriate involvement of the Pacific Basin Council.
2. All program elements for fisheries resource and research should be categorized as Priority One.
3. Only Regional fisheries projects were included as recommended program elements; local projects are to be submitted on an Island-by-Island basis.

Pacific Basin Development Conference

Workshop 1, Panel A(1) FISHERIES DEVELOPMENT

PROGRAM ELEMENT 1

Regional/Island Fisheries Development Plan & Implementation Mechanism

Problem Definition:

The need to develop a regional fisheries development strategy, a comprehensive Fisheries Development Plan for each of the U. S. Pacific States/Territories, and the institutional mechanisms to implement State/Territory and Pacific Region development plans.

Plan of Action:

1. Undertake fish stock surveys to determine sustainable yield for non-migratory and migratory stocks.
2. Inventory harvesting, processing, transportation, and market resources by locality and region.
3. Analyze potential for further local and regional market development.
4. Determine infrastructure needs, economic constraints, and sources of capital within and outside the region.
5. Include port development plans for transshipment, processing, handling, fuel supplies, repair facilities, etc. Fishing port development planning should evaluate which localities in the region can contribute comparative advantages in fishing port development.
6. Organize institutional mechanisms to integrate local regional and national resources for implementation of State/Territory and Pacific Region Fishery development plans and strategy based upon comprehensive fisheries development plans for each of the State/Territories.

End Product:

A systems plan for facilities development, Regionally and by individual island.

Benefit:

Each locality would have its own fisheries development plan which would/could be integrated with the regional development plan, including appropriate clauses for funding port development. Problem areas and advantages for implementation would be highlighted. Implementation capabilities region-wide will be identified and capital can be effectively allocated to meet local and regional needs.

Schedule:

Simultaneous development of plans with local and regional planning increments identified basic data gathered in early stages. Determine after the first year which localities need training, what infrastructure is needed, etc., and further, regional strategy and allocation among localities can be continued and updated on a year-by-year basis based on progress.

Estimated Cost:

	<u>First Year</u>	<u>Four Succeeding Years</u>
Each local island group	\$150,000 X 3 groups	\$50,000 X 4 groups
Regional plan	\$150,000	\$50,000
GRAND TOTAL = \$1.6 Million		

Constraints:

1. Political
2. Funding
3. Individual island aspirations

Lead Agency:

The following Federal Agencies:

1. Island Marine & Natural Resources Agencies
2. NMFS (Stocks, marketing, development)
3. MARAD (ports)
4. EDA (infrastructure planning and capital allocation)
5. Army Corps of Engineers (port development).

Priority: 1

Pacific Basin Development Conference**Workshop 1, Panel A(1)
FISHERIES DEVELOPMENT
PROGRAM ELEMENT 2****Extension of National Marine Fisheries Service****Problem Definition:**

Extension of National Marine Fisheries Service, financial assistance programs, Fishing Vessel Obligation Guarantee (FVOG) and Fishing Vessel Capital Construction Fund (FVCCF) programs to citizens of the Pacific Basin area.

Plan of Action:

1. Research on the matter by GCF to determine eligibility of citizens in the various Territorial areas for these NMFS programs.
2. Analysis of financial assistance program needs in the areas as an aid to fisheries development.
3. Information on number of fishing vessels now in the Territorial area.

End Product:

Preparation of a report showing extent of program eligibility to the area and its future impact on fisheries development.

Benefit:

To provide citizens of the U.S. Territorial areas with privileges of U.S. citizenship for fishing vessel financial assistance to the maximum extent possible.

Schedule:

1. GCF determination of financial programs eligibility prior to Conference.
2. Legislative proposal to correct zones of ineligibility.

Estimated Cost:

1. First year: \$10,000 for travel from FSW, FSD, station in Terminal Island to the Islands, providing additional personnel is made available to service the Islands. FSW, FSD could not service the Islands under present personnel ceilings.
2. Second year: \$15,000
3. Total: \$25,000

Constraints:

1. Legislation
2. Differential cost of U.S. built and foreign (Japanese-built) fishing vessels and costs of transporting U.S. vessels to the Territorial areas.

Constraints, Cont.

3. Possible restrictions because of foreign (Japanese) ownership of fishing enterprises.

Lead Agency: NMFS

Priority: 1

Pacific Basin Development Conference**Workshop 1, Panel A(1)
FISHERIES DEVELOPMENT****PROGRAM ELEMENT 3****Impact Study of U.S. Fishery and Maritime Laws on
Fishery Development in the Pacific Basin Region****Problem Definition:**

A review and evaluation of all U.S. Fishery and maritime laws, regulations and policies as they affect Hawaii, Guam, American Samoa, and the CNMI, including effectiveness of enforcement measures.

Plan of Action:

1. Conduct in depth analysis of fisheries/maritime laws and regulations with respect to the above jurisdictions.
2. Evaluate present fishery/maritime policies in light of analysis of existing laws.
3. Evaluate enforcement capabilities of the U.S. and local governments.
4. Develop various options for change based on items 1-3 above that would contribute to the growth of U.S. Pacific jurisdictions, including international and regional organizations for the development and management of fisheries.
5. Analyze and develop a legal regime for the international or regional management of highly migratory species.
6. Prepare summary report covering the above items, which provides recommendations for legislative and policy changes to promote economic growth and effective enforcement.

End Product:

1. Plans for realistic and practical changes to existing laws, regulations, and policies that will promote economic growth.
2. Specific Administration program to implement legislative, regulatory and policy changes.
3. Plans for an effective enforcement system, including additional USCG capability and local enforcement efforts.

Benefit:

1. Would reduce political tensions between some jurisdictions and the Federal government which are perceived to be an obstacle for fisheries/maritime development.
2. Increase commercial activity in areas.
3. Spur private sector development.
4. Insure predictability of Federal laws, regulations, and policies.
5. Protect the resources from unmanaged, illegal fishing activities.

Schedule: Six to nine months.

Estimated Cost: \$100,000

Constraints:

1. Lack of in-house personnel to carry out mission.
2. Possible passage of modified U.S. fishery and maritime laws by Congress.
3. Local political objections; other institutional factors.
4. Funding limitations for enforcement vessels, aircraft and needed personnel, supplies and equipment.

Lead Agency:

U.S. Coast Guard, General Counsels of National Marine Fisheries Service, U.S. Maritime Administration, Department of State, and Attorneys General of American Samoa, Guam, Hawaii, and the Commonwealth of the Northern Mariana Islands.

Alternate: Private contractor, such as East-West Center working with the University of Hawaii School of Law, University of Guam, and the Attorneys General of the island governments and the U.S. Coast Guard.

Priority: 1

Pacific Basin Development Conference**Workshop 1, Panel A(1)
FISHERIES DEVELOPMENT****PROGRAM ELEMENT 4****Regional Fisheries Loan Fund****Problem Definition:**

Amend existing legislation and/or introduce new law geared to Island State and Territorial needs.

Plan of Action:

1. Introduce new legislation to provide financial assistance for Hawaii and the U.S. Territories to assist in Fisheries Development.
2. Amend existing law to include American Samoa and other U.S. Territories in fisheries loan fund.

End Product:

1. Legislation tailored towards American Samoa and other U.S. Territorial needs.
2. In-depth analysis of program eligibility for the Territories and their future fisheries development.

Benefit:

American Samoans and other U.S. Territories' citizens will enjoy privileges extended to U.S. citizens for fishing vessel financial assistance, to the maximum extent possible.

Schedule: Immediate**Estimated Cost: \$15,000,000****Constraints:**

1. Specific requirements in the existing Act for fisherman eligibility preclude Island fishermen.
2. Special interest groups may insist on maintaining the status quo.

Lead Agency: NMFS/EDA**Priority: 1**

Pacific Basin Development Conference

Workshop 1, Panel A(1)
FISHERIES DEVELOPMENT
 PROGRAM ELEMENT 5

Island Fishing Port and Infrastructure Development

Problem Definition:

Lack of adequate port and supporting shoreside facilities are critical constraints upon development of fishing industries in each of the American Pacific Island areas.

Plan of Action:

Plan, design, and construct required port facilities and support services consistent with local and regional fisheries development needs.

End Product:

Adequate fisheries and trans-shipment port facilities and support services in each of the island areas.

Benefit:

1. Removal of the most critical limiting constraint to significant fisheries development in all of the American Pacific island areas.
2. Increased revenue and employment opportunities.
3. Development of domestic fishing industry.
4. Reduced operating costs and increased efficiency for private fishing, processing and trans-shipment industries.

Schedule:

Design and construction over the next five years.

Estimated Cost:

	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Total</u>
Hawaii	4,500	8,000	14,000	11,700	8,000	46,200
American Samoa	65	700	800	85	0	1,650
Guam	50	1,000	2,000	1,000	1,000	5,050
CNMI	1,000	1,000	1,000	1,000	1,000	5,000

Constraints:

1. Magnitude of funding required.
2. Environmental impact concerns and requirements.
3. Conflicting requirements of competing users including the military.

Lead Agency:

1. MARAD
2. Corps of Engineers
3. EDA
4. Interior Department
5. Local Governments

Priority: 1

Pacific Basin Development Conference

Workshop 1, Panel A(1)
FISHERIES DEVELOPMENT

PROGRAM ELEMENT 6

Regional Fisheries Training and Apprenticeships

Problem Definition:

Islanders have a pressing need for training in state-of-the-art technology for harvesting, handling, processing, and marketing of available fishery resources.

Plan of Action:

1. Establish training and apprenticeship goals and objectives.
2. Survey islanders to identify potential participants in training and apprenticeship projects.
3. Develop strategy for project planning.
4. Provide qualified personnel to prepare training and apprenticeship project proposals.
5. Evaluate proposals.
6. Implement training and apprenticeship projects in close coordination with overall fishery development program.

End Product:

An integrated training and apprenticeship element involving direct participation by the Islanders in all appropriate fishery development projects.

Benefit:

Development of a sufficient number of Islanders earning incomes as entrepreneurs in fishing businesses and as skilled workers in fisheries and related marine industries and advancing use of new techniques and equipment.

Schedule:

1. First year: establish goals, complete survey, develop planning strategy, identify personnel requirements, prepare project proposals.
2. Second through fifth years: implement approved projects.

Estimated Cost:

1. First year: \$150,000 X 4 areas	\$ 600,000
2. Years 2-5: \$100,000 per year X 4 areas	<u>1,600,000</u>
	TOTAL
	\$2,200,000

Constraints:

1. Cost
2. Lack of incentives necessary for motivation.

Lead Agency: NOAA/NMFS/SG/CETA

Priority: 2

Pacific Basin Development Conference**Workshop 1, Panel A(1)
FISHERIES DEVELOPMENT****PROGRAM ELEMENT 7****Regional Marine Environmental/Vocational Education for Fisheries
A Curriculum Development and Implementation Project****Problem Definition:**

Development of a fully integrated and comprehensive marine environmental and vocational education curriculum for primary and secondary students who wish to make fisheries and related activities a career.

Plan of Action:

1. Curriculum development.
2. Publication of text and other related material.
3. Recruitment and training of appropriate instructors.
4. Procurement of necessary equipment.
5. Implementation in territorial primary and secondary schools.
6. Cooperative educational arrangements with local fishermen and agencies.

NOTE: Program should include among other things, fishing techniques, marine ecology, boat handling, resource management and protection, marketing, entrepreneurship and business management, and fisheries economics, as well as allowing time for a basic education.

End Product:

Marine educational curriculum for students interested in a fisheries career.

Benefit:

1. Maintenance of cultural values by attracting young people to the traditional pursuit of fishing.
2. Improvement of fishing enterprises as these trained graduates either become employed by existing fishermen or go into business for themselves.
3. Provide an awareness of marine environment and motivation of island youth to enter marine related industries.

Schedule:

Year 1: Preparation of curriculum and preliminary implementation activities.

Years 2-4: Program implementation and continuance.

Estimated Cost:

\$50,000/year X 4 areas X 5 years = \$1,000,000

Constraints:

1. Recruitment of instructors.
2. Preparation of relevant curriculum materials.

Lead Agency: NMFS/U.S. Department of Education, Sea Grant

Priority: 3

Pacific Basin Development Conference

Workshop 1, Panel A(2)
FISHERIES DEVELOPMENT

PROGRAM ELEMENT 1

Regional Resource Assessment

Problem Definition:

Information on the nature, location and magnitude of fishery resources is necessary as the basis for investment decisions by the private sector and for development planning by governments.

Plan of Action:

Relevant information should be gathered from all available sources on known and potential resources including:

1. Existing fisheries.
2. Existing literature (including Japanese, Taiwanese, Korean, and Russian).
3. Existing plans (e.g., Hawaii, PTDF tuna).
4. Exploratory/survey fishing (especially by commercial charter).
5. Use of new technology as appropriate (e.g., satellites).

End Product:

Information on nature, location and magnitude of resource base.

Benefit:

Improved decision-making ability (e.g., for investments, planning).

Schedule:

Year 1 - Assemble existing data, plan surveys.

Year 2 - Initiate surveys in all areas.

Year 3 - Continue surveys, report results.

Year 4 - Continue surveys, report results.

Year 5 - Continue surveys, summarize results, decide on future needs.

Estimated Cost:

Year 1	\$ 200,00	staff, travel, etc.
Year 2	\$1,800,000	ship time (200 days @ \$2,000/day) 4 areas plus staff
Year 3	\$1,800,000	
Year 4	\$1,800,000	
Year 5	\$1,000,000	reduce ship time 50%
TOTAL	\$6,600,000	

Constraints:

Funds, distances (operating difficulties), and length of cruiser (personnel).

Lead Agency:

Island Governments, (Pacific Basin Development Council)

Priority: 1

Pacific Basin Development Conference

Workshop 1, Panel A(2)
FISHERIES DEVELOPMENT
 PROGRAM ELEMENT 2

Ciguatera Survey and Research Study

Problem Definition:

Incidence of ciguatera poisoning vary from area to area with no simple method of ciguatoxin detection presently available. Suspected fish species need to be verified for fish poisoning and the biological and ecological nature of ciguatera understood.

Plan of Action:

1. Sample commercially landed fish for ciguatoxin using Radio-Immunoassay technique and other methods as developed.
2. Survey fish samples from ciguotoxic areas.
3. Culture causative organisms for determination of physical and biological requirements.
4. Develop practical test for ciguatoxin usable by fishing industry.
5. Develop an antidote for ciguatoxin.

End Product:

1. Identify biological and ecological nature and parameters of ciguatoxin (season, cycles, food web, environmental factors, etc.).
2. Remove toxic fish from market.
3. Minimize health hazard through use of antidote.

Benefit:

Same as above.

Schedule:

Dependent on research findings; therefore, scheduling would be unrealistic at this point in time.

Estimated Cost:

Budget Item	Yearly Cost	Five Year Cost
Market Sampling	\$ 60,000	
Survey and Culture	75,000	
Ciguatoxin Test and Antidote	<u>150,000</u>	
TOTAL COST	\$285,000	\$1,425,000

Constraints: Funding

Lead Agency: Island governments through Pacific Basin Development Council

Priority: 1

Pacific Basin Development Conference

Workshop 1, Panel A(2)
FISHERIES DEVELOPMENT

PROGRAM ELEMENT 3

Regional Aquaculture Development Plan

Problem Definition:

A comprehensive regional plan for aquaculture research and development is needed in order to establish a viable aquaculture industry for the Pacific Basin Islands of Guam, American Samoa, Northern Marianas, and Hawaii.

Plan of Action:

1. Survey the status of freshwater, brackish-water, and marine aquaculture on each island.
2. Determine the opportunities for and constraints to development.
3. Commercially produce candidate crustacean, mollusk, finfish, and seaweed species.
4. Recommend action programs to develop new species and provide support services to the industry.

End Product:

An integrated regional aquaculture plan for the development of aquaculture in each of the island which will include resource assessments, market assessments, assessments of technical capabilities, recommendations for candidate species, capital requirements and identification of regulatory constraints.

Benefit:

An expanded aquaculture industry with emphasis on production of economically important aquatic species that will enable the island people to profit from their own enterprise.

Schedule:

Year 1 Assessment and planning for each island.

Year 2 Formulation of an integrated regional development strategy, initiate species plans and demonstration projects.

Estimated Cost:

	<u>Per Island Cost</u>	<u>Total Cost</u>
Year 1	\$ 50,000	\$ 200,000
Year 2	50,000	200,000
Years 3-5	500,000	1,500,000
GRAND TOTAL		\$1,900,000

Constraints:

1. Government regulations, permits, etc.
2. Inadequate scientific and technical knowledge.
3. Inadequate engineering knowledge.
4. Inadequate market knowledge.
5. High cost of labor and materials.
6. High cost of land/water areas.
7. Inadequate advocacy for aquaculture land/water use conflicts.
8. Inadequate financing and financial assistance.
9. Inadequate technical assistance (delivery system).
10. Inadequate coordination (intra-government and between government and industry).

Lead Agency:

Department of Commerce/USDA/Department of the Interior

Priority: 1

Pacific Basin Development Conference

Workshop 1, Panel A(2)
FISHERIES DEVELOPMENT
PROGRAM ELEMENT 4

Transfer of Fisheries Technology

Problem Definition:

Fish catches in tropical waters often receive inadequate care during handling and transfer resulting in lower quality, lower prices, and loss of valuable protein. There is a lack, particularly in Guam, American Samoa, and the CNMI, of alternate or locally appropriate technological methods of fish handling and processing.

Plan of Action:

1. Establish a central group of technological experts from industry, technical schools, and if needed, government who would be available for consultation and training on site.
2. Develop packaged kits of information emphasizing practical "hands-on" approaches to:
 - a. fish handling techniques
 - b. vessel systems
 - c. fishing gear
 - d. weather information
 - e. safety
3. Since tuna are the largest resource exploitable in the short term, emphasize tuna processing at two levels:
 - a. regular tuna industry requirements, and
 - b. use of fishing, drying, smoking, and production of the intermediate step towards katsuobushi (which is called arabushi, etc.).

End Product:

Establishment of a base of information and operating procedures for a local tuna industry.

Benefit:

Economic gains to the fisherman, since they will be able to command higher prices for good quality fish and fish products. Would possibly result in expansion of the fisheries and export market. If successful, this technology could be utilized in other tropical areas where potential for small- and medium-scale tuna fisheries exists.

Schedule:

Year 1 Plan, accumulate information, obtain experts

Years 1-5 On-going phase

Estimated Cost:

Year 1 \$100,000

Years 2-5 \$100,000/year

Total \$500,000

Constraints:

Available personnel and communications.

Lead Agency:

1. technical schools (to be identified)
2. Sea Grant
3. NMFS
4. In cooperation with industry

Priority: 1

Pacific Basin Development Conference

Workshop 1, Panel A(2)
FISHERIES DEVELOPMENT

PROGRAM ELEMENT 5

Regional Fisheries Marketing System

Problem Definition:

Fragmentation of fishing facilities as related to support infrastructure and market location result in increased operational costs to producers/dealers resulting in higher costs and inability to compete with foreign competitors.

Plan of Action:

1. Analyze areas to determine extent of need.
2. Working with local government officials, determine the best locale.
3. Prepare preliminary design of siting of best location for each area.

End Product:

Existence of an efficient mechanism for the distribution, marketing of local fish, and provision of supplies and services to fisheries.

Benefit:

Provide industry, processors, and fishermen with basic market information needed to plan business strategies and make correct market decisions.

Schedule:

Phase I 3 to 6 months

Phase II continuing

Estimated Cost:

<u>Budget Items</u>	<u>Costs</u>
Study Survey	\$ 40,000
Yearly Implementation (local gov't funds matched by industry)	\$ 150,000
Total Five Year Cost	\$ 640,000

Constraints:

Getting agreement from each local entity on location of each facility.

Lead Agency: NMFS/EDA

Priority: 1

Pacific Basin Development Conference
Workshop I, Panel A(2)
FISHERIES DEVELOPMENT
PROGRAM ELEMENT 6

Market Information and Market Potential Dissemination

Problem Definition:

Provide timely information on market prices, market requirements (quantities, handling, etc.) and market potentials of fish both within and outside Hawaii, Guam, American Samoa, and the Northern Mariana Islands.

Plan of Action:

1. Develop, insofar as practical, a central and western Pacific equivalent of the yellow sheet published by the Southwest Region. It is noted this may be very difficult to do outside Hawaii.
2. Provide industry, processors, and fishermen with basic information on the needs of markets outside their individual jurisdictions, especially concerning quantities desired, special handling needed, and customs and tariff barriers to be overcome. The latter refers to special requirements needed to penetrate markets outside the U.S., especially in Japan, Taiwan, and Southeast Asia. Special efforts should be made to assess market potentials for both conventional and underutilized species.

End Product:

1. Yellow sheet or other similar form of current market information on prices and other current information on market opportunities, fishery development, etc.
2. Background information on basic market requirements via newsletters, special reports, one-on-one consultations, correspondence, list of brokers, etc.

Benefit:

Provide industry, processors, and fisherman with basic market information needed to plan business strategies and make correct market decisions.

Schedule:

1. Phase I - three to six months.
2. Phase II - continuing.

Estimated Cost:

1. Phase I - \$10,000 - Year One
2. Phase II - \$75,000 - Year two thru five
Total - \$310,000

Constraints:

1. Ability to obtain cooperation from industry regarding reporting of prices, quantities sold, etc., on a timely basis.
2. Personnel ceilings available.

Lead Agency: NMFS

Priority: 1

Pacific Basin Development Conference**Workshop 1, Panel A(2)
FISHERIES DEVELOPMENT
PROGRAM ELEMENT 7**

Accessibility of Small and Medium U.S. Hulls for Domestic Fisheries on Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands

Problem Definition:

The high cost of shipping U.S. hulls from the mainland is a serious constraint to the expansion of domestic fisheries.

Plan of Action:

1. Investigate availability of loan and/or subsidy programs.
2. Federal legislation.
3. Conduct a survey of all avenues of foreign and domestic shipping in order to determine the least expensive shipping routes.
4. Conduct an analysis of the possibility of shipping vessels to Guam via non-domestic ports (e.g., Saipan, Okinawa, Truk).
5. Conduct a survey of tariffs and charges in non-domestic ports.
6. Conduct an analysis of the economic feasibility of assembling hulls shipped incomplete to Guam.

End Product:

Draft legislation by lead agency.

Benefit:

1. Supports shipbuilding industry of U.S.
2. Expansion of territorial domestic fisheries consistent with current U.S. policy toward rebuilding the U.S. shipbuilding industry.

Schedule:

1981 - Initiate immediately toward legislation in 1981.

Estimated Cost: \$40,000

Constraints: Existing legislation.

Lead Agency:

Department of Commerce/NMFS/State Department

Priority: 1

Pacific Basin Development Conference

**Workshop 1, Panel A(2)
FISHERIES DEVELOPMENT**

PROGRAM ELEMENT 8

Propagation of Live Bait

Problem Definition:

The single largest fisheries in the Pacific Basin is the Skip-Jack tuna. Development of tuna fishery in all of the American Pacific islands has been restricted by a lack of natural bait supplies for pole and line fishing.

Plan of Action:

1. Develop pilot projects in top minnow, mullet, and milkfish rearing programs in the Pacific Basin.
2. Construct baitfish facilities in all appropriate locations.
3. Train island baitfish culture personnel.

End Product:

Adequate supplies of live bait to develop pole and line tuna fisheries.

Benefit:

Establishment of domestic multi-million dollar tuna fisheries in the Region.

Schedule:

- | | |
|---|---------|
| 1. Top minnow, mullet, milkfish studies | 5 years |
| 2. Facilities construction | 2 years |
| 3. Personnel training | 1 year |

Estimated Cost:

Item 1	First Five Years	\$3,500,000
Item 2	Facility Construction	4,000,000
Item 3	Personnel Training	<u>275,000</u>
	TOTAL	<u>\$7,775,000</u>

Constraints:

1. Status of current programs and funding.
2. Major expenditures required.
3. Relatively long term research effort is required.
4. Availability of resource.
5. Cost benefit of resources.

Lead Agency: Industry/EDA/NMFS

Priority: I

REPORT OF THE COASTAL ZONE MANAGEMENT PANEL

Workshop 1, Panel B

GOALS & OBJECTIVES

The Panel's goal was to: (1) develop a short-term and five year strategy for the coordinated management of defined coastal zones which can be affected by economic development projects, e.g., port and harbor facilities, hatcheries, extraction of coral and seaweed, and in some cases seabed mining, and (2) assure the compatibility of those recommended projects with sound ecological preservation and beneficial use of the fragile island shorelines.

ISSUES

The major issues for discussion were the needed establishment of a regional policy and management body to resolve or solve conflicts between competing interests for coastal zone utilization; the need for consistent Federal policy decision making; and establishment of coordinated management between the Islands from a Regional perspective. Issues which were special to individual islands involved the immediate land mass and shoreline waters, various needed studies to better determine and control the environment of each island, environmental education of island residents and non-residents (visitors), technological issues regarding the coastal zones, assessing potential products and natural resources, including hatcheries development and determining the economic feasibility of extracting mineral resources from the ocean waters near the Islands.

The Issue Paper included in the Pre-Conference Workbook suggested that the Federal Office of Coastal Zone Management (OCZM) could significantly assist the Island governments, private investment developers, and other Federal agencies as a focal point for balanced, intelligent and considerate utilization of Regional coastal areas. OCZM has the capability of assisting in the establishment of regional policy with a coordinating body to solve/resolve issue conflicts between competing interests. Also, OCZM could initiate needed information/educational efforts regarding coastal zone management in and among the Islands.

PARTICIPATION

Participation in this relatively technical area of Conference concern totaled 19 persons; seven Island government and six Federal government representatives and five representatives from academia, private industry, and two West Coast States. Four of the Island participants had direct responsibility for CZM programs. Federal participants included representatives from the NOAA's Office of Coastal Zone Management, the U.S. Corps of Engineers, and the U.S. Fish & Wildlife Service. The remaining participants came from the continental East Coast - Marine Science, Deepsea Ventures, Gloucester Point, VA; the West Coast - Department of Ecology, St. Martins College, Olympia, WA.; the Oregon Department of Land Conservation and Development; and the Pacific Basin - Urban & Regional Planning Program, University of Hawaii. Overall, the Panel participants were an array of skilled professionals, committed to assuring that economic projects would develop in a manner compatible with the ecological/environmental preservation of the fragile Regional coastal zones.

A staff specialist from the Federal OCZM assisted the Panel Chairman in recording the deliberations and recommendations and in preparing the Panel's report. A list of Panel participants and their organizational affiliations follows.

**COASTAL ZONE MANAGEMENT
PANEL PARTICIPANTS**

Workshop Vicechair:

Pedro R. Guerrero

Office of Carolinian Affairs
Northern Mariana Islands

Panel Chair:

Aaron Levine
President

Oahu Development Conference
Honolulu, HI

Participants:

Kelvin Char	OCZM, Washington, D.C.
Ivan Groom	Office of the Governor, Saipan, CM
Betty S. Guerrero	Bureau of Planning, Guam
John Holmstrom	Urban & Regional Planning Program, HI
Kent M. Keith	Dept. of Planning & Economic Development, HI
Robert B. Mace	U.S. Forest Service, San Francisco
Patrick D. McMakin	Guam Coastal Management Program
Jim Murley	OCZM, Washington, D.C.
Francis Pottenger	HMSS-CRPM, University of Hawaii
James F. Ross	Dept. of Land, Conservation & Development, OR
Patricia Sanderson	U.S. Dept. of the Interior, San Francisco
Bill Siapno	Deepsea Ventures, Gloucester Point, VA
Maurice H. Taylor	U.S. Fish & Wildlife Service, HI
Paul H. Templet	American Samoa Coastal Zone Mgmt.
Douglas Tom	Dept. of Planning & Economic Development, HI
Thomas M. Ushijima	U.S. Army Corps of Engineers, HI
Duane Wegner	Dept. of Ecology, WA

ORGANIZATION & OPERATIONS

Panel Chairman Levine convened the Panel and requested that they individually review the suggested CZM programs contained in the Conference Workbook. The Panel addressed its goal of developing a five-year strategy by immediately adding seven new program elements to those offered in the Workbook. Further discussions and review resulted in the Panel grouping the program elements into six areas: research/data, institutional, education/public information, environmental impact, resource management, and shorefront access/protection.

After further review and discussion, it was decided that the five-year plan could be best created on a two-tier system; Regional Programs and Island Programs. This two-tier method would offer the opportunity to view and respond to the needs of the Region as-a-whole and would also allow each Island to specify its needs within a coherent framework of planning and recommending. Regional Programs were ranked and cost estimates established, followed by ranking and estimating costs for Island Programs. It was recognized that adding more Island programs would be necessary to offer complete recommendations from each Island group and those program additions would be offered by the Island representatives for their individual governments. The total result of those program element deliberations is shown in the table below.

COASTAL ZONE MANAGEMENT PANEL 1-B **Program Element Inventory**

Suggested Program Elements	25
Additions and/or Transfers In	23
Deletions and/or Transfers Out	<u>5</u>
Final Program Elements	43

PROGRAM RECOMMENDATIONS

The Panel participants ranked the seven Regional programs as follows: 3 - Priority 1 (Immediate Need); 1 - Priority 2 (Long-Range); and 3 - Priority 3(Back-Up); and all were categorized as Basic Programs.

The Island Panel participants ranked the individual Island programs and the results of that ranking is shown in the table below.

COASTAL ZONE MANAGEMENT PANEL I-B
Island Program Element Ranking

	<u>Priority 1</u>	<u>Priority 2</u>	<u>Priority 3</u>	<u>TOTALS</u>
American Samoa	2	2	-	4
Guam	3	2	2	7
Hawaii	6	4	1	11
No. Mariana Islands	<u>4</u>	<u>6</u>	<u>4</u>	<u>14</u>
TOTALS	15	14	7	36

The table on the following page details Regional program elements, priority ratings, categories and five-year estimated costs. The tables which follow detail similar information by individual Island entity.

COASTAL ZONE MANAGEMENT PANEL 1-B
REGIONAL FIVE-YEAR ESTIMATED PROGRAM COSTS
 (\$000)

<u>PROGRAM ELEMENT</u>	<u>BASIC</u>	<u>MAJOR</u>	<u>TOTAL COST</u>
Priority 1 (Immediate Need)			
1. Regional Policy Development/ Coordination & Coastal Management Programs	408	-0-	408
2. Technical Assistance	4,100	-0-	4,100
3. Marine Education/ Technology Module	1,030	-0-	1,030
Sub-Totals	5,538	-0-	5,538
Priority 2 (Long-Range)			
4. Coastal Energy & Impact Planning/Mitigation	11,000	-0-	11,000
Priority 3 (Back-Up)			
5. Federal Consistency	15	-0-	15
6. Government Decision Making	1,400	-0-	1,400
7. Deep Seabed Mining	4,725	-0-	4,725
7a. Maganese Nodule Industry Dev.	450	-0-	450
Sub-Totals	\$ 6,590	-0-	\$ 6,590
GRAND TOTALS (Regional)	\$23,128	-0-	\$23,128
GRAND TOTALS (Island groups see Island 5-Year Programs)	\$ 8,501	\$64,450	\$72,951
PANEL TOTALS	31,629	\$64,450	96,079

COASTAL ZONE MANAGEMENT PANEL I-B
AMERICAN SAMOA FIVE-YEAR ESTIMATED PROGRAM COSTS
($\$$ 000)

<u>PROGRAM ELEMENT</u>	<u>BASIC</u>	<u>MAJOR</u>	<u>TOTAL COST</u>
Priority 1 (Immediate Need)			
1. Water Quality Improvement	50	12,000	12,050
2. Rural Village Development	100	2,000	2,100
Sub-Totals	150	14,000	\$14,150
Priority 2 (Long-Range)			
3. Shorefront Recreation Development	100	2,000	2,100
4. Urban Waterfront Development	50	2,000	2,050
Sub-Totals	150	4,000	\$ 4,150
Priority 3 (Back-Up)			
(No Designations)			
GRAND TOTALS	300	18,000	\$18,300

COASTAL ZONE MANAGEMENT PANEL I-B
GUAM FIVE-YEAR ESTIMATED PROGRAM COSTS
($\$000$)

<u>PROGRAM ELEMENT</u>	<u>BASIC</u>	<u>MAJOR</u>	<u>TOTAL COST</u>
Priority 1 (Immediate Need)			
1. Attorney for Fisheries Enforcement	375	-0-	375
2. Fisheries Education Program	50	600	650
3. Port Master Planning	250	-0-	250
Sub-Totals	675	600	1,275
Priority 1 (Long-Range)			
4. Aquana Bay Urban Waterfront Planning	100	-0-	100
5. Endangered Plant Species Research	50	-0-	50
Sub-Totals	\$ 150	-0-	150
Priority 3 (Back-Up)			
6. Aerial Mapping Update	100	-0-	100
7. Hydrographic Survey	200	-0-	200
Sub-Totals	\$ 300	-0-	300
GRAND TOTALS	1,125	600	\$ 1,725

COASTAL ZONE MANAGEMENT PANEL 1-B

**HAWAII FIVE-YEAR ESTIMATED PROGRAM COSTS
(\$000)**

<u>PROGRAM ELEMENT</u>	<u>BASIC</u>	<u>MAJOR</u>	<u>TOTAL COST</u>
Priority 1 (Immediate Need)			
1. Permit Simplification	1,500	-0-	1,500
2. Technical Assistance	2,000	-0-	2,000
3. Acquisition of Access	-0-	7,500	7,500
4. Storm & Hazard Management	500	-0-	500
5. Mapping System	280	-0-	280
6. Erosion Prevention Study	425	-0-	425
Sub-Totals	\$ 4,705	\$7,500	\$12,205
Priority 2 (Long-Range)			
7. Recreation Area Development	-0-	15,000	15,000
8. Urban Waterfront Development	-0-	10,200	10,200
9. Water Quality Improvement	30	100	130
10. Coastal/Offshore Wave Data	225	-0-	225
Sub-Totals	\$ 255	\$25,300	\$25,555
Priority 3 (Back-Up)			
11. Hazardous Materials Removal	-0-	8,000	8,000
GRAND TOTALS	\$ 4,960	\$40,800	\$45,760

COASTAL ZONE MANAGEMENT PANEL 1-B

NO. MARIANAS FIVE-YEAR ESTIMATED PROGRAM COSTS (\$000)

<u>PROGRAM ELEMENT</u>	<u>BASIC</u>	<u>MAJOR</u>	<u>TOTAL COST</u>
Priority 1 (Immediate Need)			
1. Mapping System	280	-0-	280
2. Sand Drift Study	250	-0-	250
3. Hydrographic Surveys	200	-0-	200
4. Erosion Prevention Study	395	-0-	395
Sub-Totals	\$ 1,125	-0-	\$ 1,125
Priority 2 (Long-Range)			
5. Recreation Area Development	100	3,600	3,700
6. Island for Science Institute	300	-0-	300
7. Storm & Hazard Management	75	-0-	75
8. Hazardous Materials Removal	-0-	300	300
9. Urban Waterfront Development	-0-	650	650
10. Acquisition of Access Shorefront	-0-	500	500
Sub-Totals	\$ 475	\$5,050	\$ 5,525
Priority 3 (Back-Up)			
11. Assessment of Beach Restoration/Maintenance	250	-0-	250
12. Coastal/Offshore Wave Data	105	-0-	105
13. Acanthaster Planci Study	125	-0-	125
14. Permit Simplification	36	-0-	36
Sub-Totals	\$ 516	-0-	\$ 516
GRAND TOTALS	\$ 2,116	\$5,050	\$ 7,166

OVERALL RECOMMENDATIONS

Additionally, the CZM Panel offered the following overall recommendations for conservation with the five-year strategy:

1. Prompt action on time schedule for achieving program recommendations.
2. Report on program within six months of initial Pacific Basin Conference.
3. Recommend next PBDC be held on another island entity in the Pacific Basin.

Pacific Basin Development Conference**Workshop 1, Panel B
COASTAL ZONE MANAGEMENT
PROGRAM ELEMENT 1****Regional Policy Development - Coordinating Instrumentality
and Coastal Management Programs****Problem Definition:**

The coastal zone management programs of Pacific States and Territories, in various stages of planning and implementation, are facing many similar problems, issues and constraints due to their similar geographic base and overlapping natural resources in some cases. To date, informational exchange and solidarity in decision-making on a regional basis has been extremely limited due to lack of a forum for resolution of issues and mutual cooperation toward common goals. There is a need to coordinate coastal zone planning, policies, and programs of the Pacific Territories and the State of Hawaii and to plan, study and implement unified coastal zone policies for the Island governments, utilizing Section 309 of the National Coastal Zone Management Act (CZMA), relating to Interstate Grants, as the primary implementing mechanism.

Plan of Action:

1. Seek and support the reauthorization and funding of Section 309 or employ funds from the CZMA's Section 305 and/or 306 for meeting the stated objective.
2. Identify and evaluate alternative institutional arrangements for developing and administering coordinated coastal zone planning, policies and programs.
3. Negotiate or enter into agreements or compacts for establishment of desired executive instrumentalities or agencies.

End Product:

A recognized organization to facilitate policy development and issue resolution.

Regionalization of coastal zone management to increase the effectiveness of coastal zone planning and program implementation.

Increase solidarity in influencing decision making at the Federal level on topics of regional importance to the Pacific CZM programs.

Enhance opportunities for joint participation in CZM program activities (e.g., coastal awareness education efforts or review of regional fishery management plans) of regional importance to Pacific CZM programs.

Benefit:

Enhanced region-wide policy and program coordination and improved ability to cooperatively resolve mutual coastal-related problems and concerns.

Schedule:

1. First year - study alternatives
2. Second year - select appropriate mechanism
3. Third - fifth years - establish and operate

Estimated Cost:

Year 1 - \$60,000
Year 2 - \$70,000
Year 3 - \$80,000
Year 4 - \$90,000
Year 5 - \$108,000
Total: 5-years - \$408,000

Constraints:

1. The differing political status of various States and Territories in the Pacific Basin may further fragment regional approaches to natural resource management, i.e., the Northern Marianas Islands' position on the Fishery Conservation and Management Act.
2. Uncertainty of reauthorization and funding of Section 309 of the National Coastal Zone Management Act.
3. The tremendous distances between some Island States and Territories creates difficulties in face to face communication between CZM programs and with the region as a whole communicating with the Washington, D.C. office.
4. Funding for regional program activities may still need to be identified or allocated.

Lead Agency:

Office of Coastal Zone Management

Priority: 1

Pacific Basin Development Conference**Workshop 1, Panel B
COASTAL ZONE MANAGEMENT****PROGRAM ELEMENT 2****Need for More Effective Technical Assistance****Problem Definition:**

Agencies of the federal government presently provide a wide range of technical services/assistance such as surveys and assessments of coastal resources and processes, soils and land use mapping and basic data acquisition programs to Hawaii and the U.S. territories in the Pacific Basin. The kinds and levels of services, however, do not appear for a variety of reasons to adequately satisfy the islands' short and long-term needs for technical assistance. In the short-run, for example, deficiencies in the delivery of services occur because user needs have not been articulated clearly or the mechanism linking expression of need with program planning processes between user and provider is inadequate. Unrealistic expectations placed on the capability of agencies in responding to needs and the availability of resources also account in part, for gaps in the system. In the long-run, agencies providing technical services often are unaware or do not fully appreciate sensitivities characterizing the local socio-political/cultural environment or consider the development of the islands' human resource base as a necessary adjunct to the delivery of technical services. In short, agencies often provide technical assistance without transferring the appropriate or required technology and training to ensure its continued or proper application.

Plan of Action:

1. Evaluate the effectiveness of existing programs.
2. Identify current deficiencies in assistance programs, user needs and rationale, availability of resources and, opportunities for inter-agency/governmental coordination.
3. Develop an overall "game plan" to address current and forecasted needs in technical assistance.
4. Implement appropriate mechanisms for more effectively meeting both short and long-term needs for technical assistance delivery and the transfer of technology and necessary management expertise.

End Product:

1. A workplan providing information on current and expected future needs of island users.
2. Early coordination between users and agencies providing services.
3. Reduction of duplication and more efficient use of federal monies.
4. Development and implementation of mechanisms designed to ensure the timely delivery of services and necessary training required for upgrading the level of expertise and program management capabilities of local personnel.

Benefit:

Short-term: Increased efficiency in the federal planning, programming and budget cycle resulting in the delivery of services more responsive to island needs.

Long term: Difficult to quantify, however, it is expected to be positive and significant, given the development of local human resources and a commensurate reduction in dependency on consultants and off-island hires.

Schedule:

First Phase (1st year): Evaluation of current program capabilities.

Second Phase (2nd year): Development of workplan and mechanisms for effecting "technology transfer."

Third Phase (3rd thru 5th year): Implement workplan and mechanisms.

Estimated Cost:

First year: \$100,000

Second thru fifth year: \$1,000,000

Constraints:

1. Availability of funding
2. Ability of federal agencies to coordinate their activities among themselves and with island governments.

Lead Agency:

DOI, DOC/NOAA

Priority: 1

Pacific Basin Development Conference**Workshop 1, Panel B
COASTAL ZONE MANAGEMENT****PROGRAM ELEMENT 3****Marine Education****Problem Definition:**

The coastal and marine resources in the Pacific Basin are subject to pressures for development and conservation. The opportunities and costs of development and environmental protection must be understood by the public or the best use of the resources will not be achieved.

Plan of Action:

1. Investigate existing marine education programs in Hawaii and the newly funded program in American Samoa; meet with school and college officials in U.S. Pacific Islands to determine interest and needs; provide for development and dissemination of teacher training materials.
2. Develop a High School Marine Technology Module covering marine transportation, aquaculture, ocean resources, and ocean energy for incorporation into the Hawaii Marine Science Studies curriculum.
3. Develop, test, revise and disseminate over three years a curriculum dealing with ocean resources, management, law and politics for current high school social studies programs in the Pacific Basin Islands.

End Product:

Master plans for marine education in the U.S. Pacific Islands.

Benefit:

1. Enable teachers to address local issues, relating to the marine and coastal environment of their islands and the rest of the world.
2. Citizens who value their unique resources, and balance wisely conservation, development and preservation by being more informed and participating in public debate and voting on these critical issues.

Schedule:

5 years

Estimated Cost:

year 1 - \$280,000
year 2 - \$250,000
year 3 - \$220,000
year 4 - \$140,000
year 5 - \$140,000
Total - \$1,030,000

Constraints:

Cost of tailored materials would be high as well as travel costs involved in planning and research.

Lead Agency:

Sea Grant/OCZM; University of Hawaii

Priority: 1

Pacific Basin Development Conference**Workshop 1, Panel B
COASTAL ZONE MANAGEMENT****PROGRAM ELEMENT 4****Coastal Energy and Impact Planning and Mitigation****Problem Definition:**

Proposed facilities for the transshipment of energy products and/or for the development of self supporting energy systems may create undesirable social, economic or environmental impacts in coastal areas.

Plan of Action:

Provide financial and technical assistance which will help the state territories plan, make decisions, and implement programs to minimize social, economic or physical impacts from coastal energy activity.

End Product:

Adopted plans, implementation programs or construction projects to minimize impacts.

Benefit:

The State and Territories will be able to identify impacts, set their own mitigation priorities and plan or construct projects which not only minimize impacts, but contribute to their environmental protection and/or economic development objectives.

Schedule:

Funding beginning FY-80.

Estimated Cost:

\$11,000,000

Constraints:

Loans -- apply as needed.

Lead Agency:

Coastal Energy Impact Program, Office of Coastal Zone Management in conjunction with State or U.S. Territory designated agency.

Priority: 2

Pacific Basin Development Conference**Workshop 1, Panel B
COASTAL ZONE MANAGEMENT
PROGRAM ELEMENT 5****Federal Consistency****Problem Definition:**

The federal consistency requirements effect Federal Actions in the coastal zone. The consistency requirements must be understood by the public and private sectors in order that proposed Federal actions are consistent with a Federally approved management program. Without adequate intergovernmental coordination and compliance with the Federal consistency requirements, unnecessary conflicts can arise that effect the U.S. economic development and conservation efforts in the Pacific Basin.

Plan of Action:

1. Conduct federal consistency workshops for relevant Federal agencies in the Pacific.
2. Solicit Federal agency and private sector participation in the development of coastal management programs in the Basin, including their active involvement in the formal evaluations of the program.

End Product:

Federal agencies and coastal management programs will develop an appropriate network for consultation on proposed Federal actions in the coastal zone.

Benefit:

1. Proposed Federal actions will be consistent with approved management programs and delays in project implementations will be minimized.
2. Federal funding of projects in the coastal zone will be consistent with environmental and development policies in approved coastal management programs.

Schedule:

February 1980: Brief Federal agencies and private sector on developing coastal management in the Northern Marianas and in American Samoa.

April 1980: Conduct Federal agency briefing on federal consistency procedures.

June 1980: Involve Federal agencies and private sector in the coastal management program evaluations in Guam and Hawaii.

Estimated Cost:

\$1,500 (conference travel and support)

Constraints:

None

Lead Agency:

OCZM

Priority: 3

Pacific Basin Development Conference
Workshop I, Panel B
COASTAL ZONE MANAGEMENT
PROGRAM ELEMENT 6

Coordinate Government Decision Making

Problem Definition:

A number of single-purpose resource protection programs protect coastal resources and may result in increased expenses to both the public and private sectors due to duplication of effort and delays in decision making.

Plan of Action:

1. Develop predictable siting processes for major defense, energy, recreation and transportation facilities.
2. Coordinate and simplify government decision making to ensure proper and expedited management of the coastal zone.

End Product:

Improved government procedures to site and construct major coastal-dependent facilities in the Pacific Basin.

Benefit:

1. Long-term preservation and conservation of coastal resources.
2. Short-term savings in time and money.

Schedule:

First year - Study and recommend

Second year - Demonstration

Third to fifth year - General application

Estimated Cost:

First year - \$200,000

Second to fifth year - \$300,000

Total - \$1,400,000

Constraints:

1. Legal constraints
2. Institutional constraints
3. Financial constraints

Lead Agency:

NOAA

Priority: 3

Pacific Basin Development Conference**Workshop 1, Panel B
COASTAL ZONE MANAGEMENT****PROGRAM ELEMENT 7****Deep Seabed Mining****Problem Definition:**

Deep seabed mining is an emergent international industry. Since significant manganese nodule beds are located in the Pacific Basin, a processing industry is likely to be located on one or more of the islands. Associated with this industry are important legal, economic and environmental issues which must be resolved. These involve international jurisdictional claims, federal/territorial and state management regimes, selection of onshore processing locations and selection of onshore and offshore sites for disposal of tailings. The international regime questions appear likely to be settled by the United Nations and the Congress in the near future.

Plan of Action:

1. Conduct and assess the results of feasibility research on processing and disposal sites.
2. Assist in the selection of processing and disposal sites.
3. Identify and assist in the obtaining of necessary permits and approvals.

NOAA can be of assistance to the islands in these areas through provision of technical and financial assistance. It will act as a link between the private sector to assure orderly development of the industry.

End Product:

Provision of information and advice to be used by Pacific Basin governments in planning and managing deep seabed mining.

Benefit:

Orderly development of an industry with significant economic potential and minimization of the environmental costs.

Schedule:

1st and 2nd years: Feasibility Research.

3rd year: Identification of alternative processing and disposal sites and impacts.

4th and 5th years: Selection of sites; identification of necessary permits and approvals; establishment of mechanism to expedite permit approvals.

Estimated Cost:

Year 1 - \$825,000
Year 2 - \$1,350,000
Year 3 - \$1,500,000
Year 4 - \$525,000
Year 5 - \$525,000
Total - \$4,725,000

Constraints:

Uncertainty about how the international legal issues will be resolved.

Lead Agency:

NOAA

Priority: 3

Pacific Basin Development Conference**Workshop 1, Panel B
COASTAL ZONE MANAGEMENT****PROGRAM ELEMENT 7a****Manganese Nodule Industry Development****Problem Definition:**

Deep seabed mines with significant manganese nodule beds are located in the Pacific Basin. A processing industry is likely to be located on one or more of the islands. Hawaii has conducted a feasibility study, and two international mining consortia have publicly rated Hawaii as a prime contender for a processing site. However, Hawaii's research indicates that there are important issues which must be resolved, wherever the industry is established. These issues involve the social, economic and environmental impacts of the new industry, and community planning to maximize benefits and minimize negative impacts. Specific problems include the disposal of nodule tailings on land, at sea, or through a beneficial use; assessing the acceptability of probable social impacts; the standardization of methodology for comparing nodule and tailings samples to evaluate environmental impacts; and the analysis of the infrastructure which the new industry will require.

Plan of Action:

1. Conduct studies of the land disposal, ocean disposal, and potential beneficial uses of manganese nodule tailings.
2. Analyze the infrastructure which will be required by the new industry, the infrastructure available in the Pacific Basin, and the gaps which exist.
3. Establish a standardized methodology for comparing nodule and tailing samples.
4. Conduct socio-economic impact studies and assess the acceptability of the probable social impacts.

NOAA has been active for several years in assessing the impacts of both manganese nodule mining and processing, and can be of assistance in these areas through the provision of technical and financial assistance. The proposed studies could provide background data for NOAA's use in issuing a programmatic environmental impact statement if required to do so by federal legislation.

End Product:

Provision of information and advice which can be used by Pacific Basin governments in planning and managing a manganese nodule industry.

Benefit:

Orderly development of an industry with significant economic potential, and minimization of the environmental costs.

Schedule:

1st, 2nd and 3rd Years: Study land, ocean disposal and beneficial uses of tailings.

2nd and 3rd Years: Analyze the infrastructure required, availability, and gaps. Establish standardized methodology for comparing nodules/tailings.

3rd and 4th Years: Conduct socio-economic impact studies.

If commercial mining is to begin by the late 1980's, studies must be carried out in the next few years (1980-83) in order to provide information for the permit process (1983-85) prior to the construction for processing plants (1985-88).

Estimated Cost:

1st Year

Tailings Studies: \$ 125,000

2nd and 3rd Years

Tailings Studies:	200,000
Infrastructure:	25,000
Standardization:	50,000
Socio-Economic:	25,000

4th Year

Socio-Economic: 25,000

Total - \$450,000

Constraints:

Uncertainty regarding the right to mine nodules; uncertainty regarding the willingness of mining consortia to provide nodules and tailings for study.

Lead Agency:

NOAA

Priority: 3

Pacific Basin Development Conference
Workshop 1, Panel B
COASTAL ZONE MANAGEMENT
AMERICAN SAMOA PROGRAM ELEMENT 1
Water Quality Improvement

Problem Definition:

Lower water pollution levels in Harbor and Pala Lagoon.

Plan of Action:

1. Investigate feasibility of installing wastewater disposal pipeline.
2. Install pipeline.

End Product:

1. Plan for installing pipeline.
2. Construction and completion of pipeline and pump facilities.

Benefit:

Water quality of harbor and Pala Lagoon increases thus allowing expanded uses, including development of these areas.

Schedule:

6 months

Estimated Cost:

Study - \$50,000

Installation of facilities - \$12,000,000

Constraints:

1. Existing development in pipeline right of way
2. Funding of facilities
3. EPA permits

Lead Agency:

EPA

Priority: 1

Pacific Basin Development Conference
Workshop I, Panel B
COASTAL ZONE MANAGEMENT
AMERICAN SAMOA PROGRAM ELEMENT 2

Rural Village Development

Problem Definition:

Village development refers to a program whose objective is to help villages to solve problems in the areas of municipal services, agriculture, social services, transportation, communication and village environment. It is a part of the Territory's CZM program.

The village development element of the Coastal Zone Management Program is designated to assist villages in solving problems and to provide for beneficial orderly growth of the village.

Each village has been surveyed by a team from the Development Planning Office (DPO) in meetings with the village council. These surveys solicited village council members opinions concerning a number of issues of importance to the village. The surveys were compiled and summarized and submitted to each village pulenu'u (mayor) for review and prioritization of the problems. Survey results are now in and indicate that much assistance is needed. Primary problems involve water systems, flooding, sewer system and erosion.

The present phase of the program will involve the development of a village plan for each village and will require 1-2 years. Leone village will have its plan developed first as a trial case. Once village plans are completed, they will be used to develop and allocate funding to help the villages help themselves.

This cooperative arrangement between the CZM program in the DPO and the village councils will enable the people to improve their villages and to gain a large measure of enlightened self-government.

This type of program meshes well with the Presidents recently enunciated Rural Development Policy and Plan.

Plan of Action:

1. Complete village surveys
2. Prepare village development plans
3. Implement plans, carry out village projects

End Product:

1. Completed survey
2. Completed village development plans
3. Completed village projects, and better living conditions in villages

Benefit:

Quality of life in rural villages increases, villages remain attractive places to live thus reducing migration and congestion of urban areas.

Schedule:

1. Surveys - mid 1980
2. Village development plans - 1982
3. Village projects - continuing

Estimated Cost:

1. Village surveys - local funds and CZM (already committed)
 2. Village development plans - \$100,000
 3. Village projects - \$500,000 - 4 years
- Total - \$2,100,000

Constraints:

Personnel, funding, voluntary village participation, federal permits for some village projects.

Lead Agency:

HUD, OCZM

Priority: 1

Pacific Basin Development Conference

**Workshop 1, Panel B
COASTAL ZONE MANAGEMENT**

AMERICAN SAMOA PROGRAM ELEMENT 3

Shorefront Recreation Area Development

Problem Definition:

To expand recreational facilities and opportunities

Plan of Action:

1. Prepare recreation plan incorporating SCORP and tourism needs.
2. Prepare facilities plan for identified recreation area.
3. Construct facilities.

End Product:

1. Set of needs plans
2. Set of facilities plans
3. Constructed facilities

Benefit:

Expanded recreational opportunities for local people and for tourists. Expanded tourism.

Schedule:

1. 6 months
2. 12 months
3. 2 years

Estimated Cost:

1. \$25,000
2. \$75,000
3. \$2,000,000

Constraints:

Funding, availability of land

Lead Agency:

HCRS

Priority: 2

Pacific Basin Development Conference

**Workshop 1, Panel B
COASTAL ZONE MANAGEMENT**

AMERICAN SAMOA PROGRAM ELEMENT 4

Urban Waterfront Development

Problem Definition:

Improve the quality of the waterfront area in Harbor

Plan of Action:

1. Prepare plan stressing water dependent uses.
2. Implement plan, renovate and construct near facilities.

End Product:

1. Plan for Harbor waterfront renovation
2. Pleasing, efficient waterfront

Benefit:

Increased use of Harbor Urban areas, reduction of conflicting uses, improvement of visual qualities and enhanced tourism.

Schedule:

1. Study - 8 months
2. Renovation and installation of facilities - 3 years

Estimated Cost:

1. \$50,000
2. \$2,000,000

Constraints:

1. Funding
2. Existing development

Lead Agency:

EDA, Interior, HCRS, OCZM

Priority: 2

Pacific Basin Development Conference
Workshop 1, Panel B
COASTAL ZONE MANAGEMENT
GUAM PROGRAM ELEMENT 1
Attorney Support for Fisheries

Problem Definition:

As Guam begins to develop a complexity of new territorial fisheries regulations for balanced management and development of this growth industry, more attorney support for enforcement is needed. Attorney support is also needed for negotiations with regional entities on fishery issues related to federal laws and plans. Staff support in this area is severely lacking.

Plan of Action:

Provide additional staff to the Attorney General's Office, Government of Guam for the exclusive purpose of upgrading the Territory's enforcement of fishery regulations and capability for negotiations on regional and federal issues.

End Product:

Enhanced management and development of fisheries on Guam, within a regional context.

Benefit:

Improvement of the Territory's enforcement ability regarding fishery regulations and its capability for regional/federal negotiations.

Schedule:

Year 1 - Hire attorneys
Years 2 - 5 - Ongoing program

Estimated Cost:

Year 1: \$40,000 full-time attorney
Year 1: \$20,000 half-time attorney
Year 1: \$10,000 travel
Year 1: 5,000 supplies

Total - \$75,000

Year 2: \$75,000
Year 3: \$75,000
Year 4: \$75,000
Year 5: \$75,000

Total - \$375,000

Constraints:

1. Identification of funding
2. Political status differences and applicability of Federal law

Lead Agency:

Office of Attorney General, Government of Guam

Priority: 1

Pacific Basin Development Conference**Workshop I, Panel B
COASTAL ZONE MANAGEMENT
GUAM PROGRAM ELEMENT 2****Fisheries Training, Education and Extension Service Program****Problem Definition:**

The small-scale fisheries industry on Guam is rapidly growing without the benefit of technical services, training and education concerning resource management and development.

Plan of Action:

1. Develop an extension service capability to provide technical assistance to existing and potential fishermen.
2. Develop an educational program to inform fishermen and the public of the value of fishery resources, their responsible use, and the regulations managing these resources.
3. Establish a training program to teach fishermen responsible, proven and innovative fishing methods. This could involve training in Hawaiian waters with accomplished fishermen using techniques which can be adapted to Guam, rather than importing expert fishermen who are unfamiliar with Guam waters and resources.

End Product:

An enhanced small-medium scale fishery industry development on Guam.

Benefit:

Increased capability to manage and utilize fishing resources.

Schedule:

Year 1 - Develop technical assistance capability and educational program.

Years 2 - 5 - Train and educate fishermen.

Estimated Cost:

Year 1: \$75,000

Year 2: \$150,000

Year 3: \$150,000

Year 4: \$150,000

Year 5: \$150,000

Total: \$650,000

Constraints:

1. Identification of sufficient funds
2. Cultural differences between advisors or instructors and fishermen or unwillingness to enter a training program.
3. Availability of qualified technical advisors and instructors
4. Weather problems during training period

Lead Agency:

UOG Cooperative Extension Service
Sea Grant Advisory Program
Guam Fishermen's Cooperative Association

Priority: 1

Pacific Basin Development Conference**Workshop I, Panel B
COASTAL ZONE MANAGEMENT
GUAM PROGRAM ELEMENT 3****Guam Port Master Plan Implementation, Update and Meeting****Problem Definition:**

Upon completion of the Guam Port Authority's master plan, "in-house" capabilities must be provided for the plan's update and implementation. In addition, an aggressive marketing program must be developed to attract increasing volumes of cargo and tuna for transshipment; and to promote development of and manage those commercial properties administered by the Port.

Plan of Action:

1. Complete Master Plan - July, 1980.
2. Employ planner and marketing program manager.
3. Implement master plan through appropriate financing mechanisms and marketing programs.
4. Update master plan as required and develop and manage new properties and commercial activities attracted through the marketing program.

End Product:

1. Increased volumes of cargo and tuna for transshipment (both regional and trans-Pacific) resulting in increased port revenues and generation of new supporting and auxillary business, industry and labor opportunities.
2. Ability to update Port Master Plan, as necessary, and develop full port marketing program.

Benefit:

1. Increased port revenues.
2. Generation of port-related supporting and auxillary business and industry.
3. Increased labor opportunities.
4. Ability to adjust master plan implementation according to changes in trends and world markets.
5. Less reliance on federally-subsidized economic development programs and projects.
6. Encouragement of regional economic development.

Schedule:

Year 1: Employ port planner and marketing program manager; and develop strategy for plan and marketing program implementation.

Schedule: (Cont.)

Year 2: Prepare promotional materials, presentations, as required; arrange financing of major capital improvement projects; and implement above strategies.

Estimated Cost:

Year 1 thru Year 5: \$50,000/year

Total - \$250,000

Constraints:

1. Downturn in cargo or tuna transshipment volumes reducing port revenues and need for expansion.
2. Competition from other regional ports.

Lead Agency:

Federal: Department of Commerce, (CZM, MARAD, EDA)

Local: Port Authority of Guam

Priority: 1

Pacific Basin Development Conference**Workshop I, Panel B
COASTAL ZONE MANAGEMENT
GUAM PROGRAM ELEMENT 4****Agana Bay Urban Waterfront Planning****Problem Definition:**

The Agana Bay shoreline of Guam's capitol city is highly blighted by a complexity of land-use related problems. This urban waterfront, now an incredible eyesore, has the potential of being a recreational and tourist-oriented asset to the Territory. An Urban Waterfront Task Force is formulating the Agana Bay Urban Waterfront Redevelopment Plan to assess problems and recommend strategies for improvement of the area. However, more sophisticated planning is needed before actual redevelopment can be approached.

Plan of Action:

Fund consultants to prepare specific plans for the Agana Bay Urban Waterfront for:

1. Architectural design standards
2. Landscaping
3. Relocation of unsuitable uses and rezoning
4. Waterfront shopping center complex conceptual design
5. Elimination of point source discharges
6. Master plan for Paseo de Susana

End Product:

An improved and enhanced urban waterfront

Benefit:

Increased revenue from tourism and recreational area for citizen enjoyment.

Schedule:

Year 1: Employ Consultants

Year 2 - 5: Develop plans

Estimated Cost:

Year 1-5: \$100,000 (Total)

Constraints:

1. Funding identification (high cost of urban renewal)
2. Existing zoning (portions of shoreline zoned for industrial use)
3. Non-availability of land for relocation and unwillingness to relocate

Lead Agency:

Guam Housing and Urban Renewal Authority (Chairman, Urban Waterfront Task Force)

Pacific Basin Development Conference**Workshop 1, Panel B
COASTAL ZONE MANAGEMENT****GUAM PROGRAM ELEMENT 5****Endangered Plant Species Research****Problem Definition:**

The flora of Guam is a vital part of Guam's scenic beauty; provides food and shelter for wildlife; and food, medicines and material culture for man. Yet, development pressures have reduced many species of native and endemic plant species to endangered and threatened status. Research on endangered animal species has been done or is underway. Almost no mapping of critical plant habitats or identification of rare plant species has been done to balance an approach to wildlife management. Some plant species are close to extinction.

Plan of Action:

Conduct a professional botanical assessment of the status and distribution of Guam's endangered and threatened flora.

End Product:

A study of rare flora which will assist in guiding development within areas which will not adversely impact upon wildlife and which will facilitate restoration of populations of native plants and animals.

Benefit:

Protected populations of Island plant and animal life

Schedule:

One Year

Estimated Cost:

\$50,000

Constraints:

1. Identification of funding
2. Lack of on-island professional botanists and lack of familiarity with Guam ecosystem by off-island botanists.
3. Lack of public consciousness of the values of native flora.

Lead Agency:

Department of Agriculture, Government of Guam

Priority: 2

Pacific Basin Development Conference

Workshop 1, Panel B
COASTAL ZONE MANAGEMENT
GUAM PROGRAM ELEMENT 6

Aerial Mapping Update

Problem Definition:

The series of ortho-topo maps produced from aerial photos taken in 1975 are highly used in all types of government planning. However, they are fast becoming out of date, as much development has taken place, such as housing subdivisions, port development and commercial construction since 1975, which is not reflected on the Territory's mapping system. Ongoing planning will require updated maps.

Plan of Action:

Update the ortho-topo series within the Uniform Mapping System with current aerial photographs.

End Product:

A more effective mapping system as a basic and essential planning tool for the Territory.

Benefit:

Improved government planning for housing and commercial development.

Schedule:

One Year

Estimated Cost:

\$100,000

Constraints:

Identification of funding

Lead Agency:

Bureau of Planning, Government of Guam

Priority: 3

Pacific Basin Development Conference**Workshop 1, Panel B
COASTAL ZONE MANAGEMENT
GUAM PROGRAM ELEMENT 7****Hydrographic Survey of the Guam-CNMI Fishery Conservation Zone****Problem Definition:**

It is known that many species of highly marketable fish are found associated with offshore reefs, banks, seamounts and other undersea features within the Fishery Conservation Zone Surrounding Guam and the Northern Marianas. Present hydrographic charts are outdated and inaccurate.

Plan of Action:

1. Contract a research vessel to conduct an extensive hydrographic survey of the GUAM-CNMI FCZ.
2. Prepare up-to-date hydrographic charts which can be used by government planners and fishermen.

End Product:

A more efficient management and development of fishery resources in Guam-CNMI waters.

Benefit:

Increased fishery resources for potential trade commodities.

Schedule:

One Year

Estimated Cost:

\$200,000

Constraints:

1. Identification of funding
2. Availability of research vessel

Lead Agency:

CNMI Department of Natural Resources

Department of Agriculture, Division of Aquatic and Wildlife Resources, Government of Guam

Priority: 3

Pacific Basin Development Conference**Workshop 1, Panel B
COASTAL ZONE MANAGEMENT
HAWAII PROGRAM ELEMENT 1****Permit Simplification****Problem Definition:**

Time-consuming and inefficient permit processing caused by poor communication, lack of coordination, duplication of effort, lack of specific decision-making criteria and, consequently, loss of predictability in the review process.

Plan of Action:

Develop a predictable review process that provides not only for permit "simplification" strategies but also those that act to (a) coordinate multiple or duplicative permit requirements, and (b) consolidate or eliminate steps in the permitting sequence.

End Product:

Improved governmental procedures for reviewing proposed actions affecting coastal land and water resources.

Benefit:

1. Greater acceptability to developers
2. Reduced uncertainty in outcomes
3. Comprehensive public review
4. Savings in time and money
5. Long-term preservation and conservation of coastal resources

Schedule:

First year: Study and recommend

Second year: Demonstration

Third to fifth year: General application

Estimated Cost:

\$300,000 per year

Total: \$1,500,000

Constraints:

1. Legal
2. Political-institutional
3. Economic

Lead Agency:

NOAA/State

Priority: 1

Pacific Basin Development Conference

**Workshop 1, Panel B
COASTAL ZONE MANAGEMENT**

HAWAII PROGRAM ELEMENT 2

Technical Assistance

Problem Definition:

To obtain technical information from federal agencies.

Plan of Action:

1. Prepare technical assistance report.
2. Request agency assistance.

End Product:

1. Soil survey maps of State.
2. Aerial imagery including color IR high altitude photography and satellite imagery.

Benefit:

Will improve planning capabilities and knowledge of Island resources and development pattern.

Schedule:

1. Six (6) months for study report.
2. Five (5) years for plans implementation.

Estimated Cost:

1. Technical assistance report: \$10,000.
2. Weather station: \$200,000/year.
3. Soil survey: \$100,000/year.
4. Aerial imagery: \$100,000/year.

TOTAL: \$2.0 Million.

Constraints:

Funding, agency time and personnel availability.

Lead Agency:

NOAA, USDA (SCS), NASA.

Priority: 1

Pacific Basin Development Conference
Workshop 1, Panel B
COASTAL ZONE MANAGEMENT
HAWAII PROGRAM ELEMENT 3

Acquisition of Access

Problem Definition:

Access problems can be generically viewed as those which either physically or legally prevent or impede one's use of particular resource areas. Island systems generally present a wide range of access problems, e.g. lack of physical access to and transit along the shoreline and coastal waters, inland trails, hiking areas, lack of support facilities, and rights-of-way across private land. Resolution of these problems requires varying levels of capital investment and government cooperation and commitment. In any event, a comprehensive plan for developing access using a variety of techniques such as volunteer programs for clearing trails, easement coordination proceedings, fee-simple acquisitions, and land or rights-of-way dedication needs to be developed in order to assure access needs are satisfied and that capital investments are effective.

Plan of Action:

1. Evaluate access needs
2. Develop plans for acquiring access
3. Implement the plan

End Product:

1. Information on priority needs
2. A comprehensive, staged development of those program needs

Benefit:

1. Enhanced use of all available resource areas
2. Lower user densities in any one particular area
3. Enhanced user satisfaction

Schedule:

First year: Evaluate needs and develop access acquisition plan

Year 2-5: Implement plan

Estimated Cost:

\$1.5 million per year

Total 5 year period: \$7.5 million

Constraints:

Zoning laws, permit acquisition, inability to acquire private land, lack of capital, removal of established infrastructure.

Lead Agency:

DPED/County governments/OCZM

Priority: 1

Pacific Basin Development Conference

Workshop I, Panel B

COASTAL ZONE MANAGEMENT

HAWAII PROGRAM ELEMENT 4

Storm and Hazard Management

Problem Definition:

The potential for loss of life and property as the result of tsunami and storms and associated storm surge and flooding is increased in the Islands with increasing concentrations of population and structures in vulnerable coastal areas, inadequate evacuation routes, maps and plans, lack of public awareness, and inadequate intergovernmental planning and cooperation.

Plan of Action:

1. Identifying specific coastal hazard problems and need for disaster mitigation and management activities.
2. Program technical and financial assistance.

End Product:

Risk assessments, storm evacuation maps, public education and awareness programs to be used and followed by appropriate Island agencies.

Benefit:

Improved protection of life and property and intergovernmental cooperation and coordination.

Schedule:

1. First year: Identify problems & program assistance.
2. Second through fifth year: Program assistance.

Estimated Cost:

\$100,000/year -- \$500,000.

Constraints:

Defining the roles of FEMA and NOAA and establishing a cooperative working relationship.

Lead Agency:

NOAA

Priority: 1

Pacific Basin Development Conference**Workshop 1, Panel B
COASTAL ZONE MANAGEMENT****HAWAII PROGRAM ELEMENT 5****Commonwealth Mapping Program****Problem Definition:**

1. Map Hawaiian Islands at 1:10,000 scale, showing topography, cultural features.
2. Map each Island in the group at 1:4,000 scale, showing meter contourlines, major cultural features.
3. Assorted locations 1:200.

Plan of Action:

1. Hire contractor to conduct aerial photography, mapping.
2. Update existing orthophotos.

End Product:

Complete set of maps of the State of Hawaii.

Benefit:

1. Knowledge of geographical topographical constraints.
2. Standardize information for planning, census, tourism, and other purposes.
3. Assistance to potential developers.

Schedule:

First Year: Define scope, contract consultant, conduct photography, prepare and deliver maps.

Estimated Cost:

\$280,000

Constraints:

1. Weather.
2. Lack of mapping contractors.
3. Transportation.
4. Minimum of older maps and photographs.

Lead Agency:

1. National Oceanic and Atmospheric Administration (NOAA)
2. USGS
3. Defense Mapping Agency

Priority: 1

Pacific Basin Development Conference

Workshop 1, Panel B
COASTAL ZONE MANAGEMENT
HAWAII PROGRAM ELEMENT 6

Erosion Prevention Study

Problem Definition:

Prevent further erosion in Hawaiian Islands.

Plan of Action:

1. Determine manageable level.
2. Institute management plan, harvest/relocate.

End Product:

Control of soil and water runoff.

Benefit:

Prevent loss of soil, vegetation, damage to marine resources, migratory birds. Also nutritional benefits/marketable.

Schedule:

1. First year: Study harvest/relocation.
2. Ongoing annual monitoring.

Estimated Cost:

Transportation, salary, expenses: \$425,000.

Constraints:

1. Funding.
2. Access to eroding areas.

Lead Agency:

Fish & Wildlife Service, USDA, EPA, State Department (International Migratory Bird Treaties)

Priority: 1

Pacific Basin Development Conference**Workshop 1, Panel B
COASTAL ZONE MANAGEMENT
HAWAII PROGRAM ELEMENT 7****Shorefront Recreation Area Development****Problem Definition:**

To expand recreational facilities and opportunities.

Plan of Action:

1. Prepare recreation plan incorporating SCORP and tourism needs.
2. Prepare facilities plan for identified recreation area.
3. Construct facilities

End Product:

1. Set of needs plans.
2. Set of facilities plans.
3. Constructed facilities.

Benefit:

Expanded recreational opportunities for local people and for tourists. Expanded tourism.

Schedule:

1. Planning, architecture & engineering and construction -- two years.
2. Operations -- three years.

Estimated Cost:

\$3.0 Million/year -- TOTAL: \$15.0 Million.

Constraints:

Funding, availability of land.

Lead Agency:

HCRS

Priority: 2

Pacific Basin Development Conference

Workshop 1, Panel B

COASTAL ZONE MANAGEMENT

HAWAII PROGRAM ELEMENT 8

Urban Waterfront Development

Problem Definition:

Improve the quality of the waterfront area in Harbor.

Plan of Action:

1. Prepare plan stressing water dependent uses.
2. Implement plan, renovate and construct near facilities.

End Product:

1. Plan for Harbor waterfront renovation.
2. Pleasing, efficient waterfront.

Benefit:

Increased use of Harbor urban areas, reduction of conflicting uses, improvement of visual qualities and enhanced tourism.

Schedule:

1. Planning, architecture & engineering, and construction

Estimated Cost:

\$10.2 Million total.

Constraints:

1. Funding.
2. Existing development.

Lead Agency:

EDA, Interior, HCRS, OCZM

Priority: 2

Pacific Basin Development Conference

Workshop I, Panel B
COASTAL ZONE MANAGEMENT
HAWAII PROGRAM ELEMENT 9

Water Quality Improvement

Problem Definition:

Lower water pollution levels in Harbors.

Plan of Action:

1. Investigate feasibility of installing wastewater disposal pipeline.
2. Install pipeline.

End Product:

1. Plan for installing pipeline.
2. Construction and completion of pipeline and pump facilities.

Benefit:

Water quality of harbors increases, thus allowing expanded uses, including development of these areas.

Schedule:

Six months.

Estimated Cost:

Study and installation of facilities -- \$130,000.

Constraints:

1. Existing development in pipeline right-of-way.
2. Funding of facilities.
3. EPA permits.

Lead Agency:

EPA

Priority: 2

Pacific Basin Development Conference**Workshop 1, Panel B
COASTAL ZONE MANAGEMENT
HAWAII PROGRAM ELEMENT 10****Need for Coastal and Offshore Wave Data****Problem Definition:**

Waves are among the most important of oceanic environmental conditions which affect man in coastal regions, including both the shore and the adjacent continental shelves. Extensive knowledge of wave conditions is required for planning and design of shore, nearshore, and offshore projects and operations. Beach erosion and restoration, navigation, and coastal flooding problems cannot be adequately solved without a substantive knowledge of wave climate.

Plan of Action:

1. Collection of statistics of extreme sea states is vital for selecting design values for proposed offshore and coastal installations or assessing the suitability of certain equipment that may be exposed to severe sea states.
2. Improved data is required for development of better marine forecasting models, coastal management and planning, offshore environmental assessment and pollution programs, and input for local wave forecasts and disaster predictions.
3. Collect wave data, since available wave data are inadequate and consist of visual estimates of wave conditions made from ships, some scientific measurements made for short time periods, a few long-term measurements made from piers and offshore platforms, and hindcast values of insufficient accuracy and at large distances from this coast.

End Product:

1. Accurate measured wave data collected to satisfy user requirements. Greatly increased benefit will accrue from data suitable for analysis to determine wave energy frequency and directional spectra.
2. Long-term wave conditions monitored to obtain an accurate statistical description of the frequency of occurrence of specific wave conditions, particularly severe wave conditions. Existing wave data do not satisfy these requirements.
3. Field data, particularly on extremes, will be collected which is required to calibrate and verify hindcast forecast models to obtain quickly the long-term statistics, and to provide the forecasts necessary for operations.

Benefit:

Marine operations and ocean construction are extremely costly and solution of this problem would result in estimated cost savings of \$50 million to \$100 million per year. Known wave conditions and better wave forecasts are required to select equipment, to plan operations, and to reduce downtime. Comprehensive knowledge of wave conditions is essential for the optimum design of offshore structures, coastal erosion preventive measures, breakwaters, and submarine pipelines.

Schedule: 1980 - 1982

Estimated Cost: \$75,000/year for three (3) years; TOTAL: \$225,000.

Constraints: Funding.

Lead Agency: NOAA

Priority: 2

Pacific Basin Development Conference

**Workshop 1, Panel B
COASTAL ZONE MANAGEMENT
HAWAII PROGRAM ELEMENT 11**

Removal of Hazardous Materials from Beaches & Coastal Waters

Problem Definition:

Removal and relocation of hazardous war relics from beaches and coastal waters.

Plan of Action:

1. Arrangements with U.S. Navy/Army.
2. Survey relics to determine historical, habitat value.
3. Identify items for removal.

End Product:

One time clean-up.

Benefit:

1. Safe beaches.
2. Safer boating.
3. Higher aesthetic quality for State environment.
4. Artificial reefs.

Schedule:

Arrange U.S. Navy/Army training exercise.

Estimated Cost:

\$8.0 Million.

Constraints:

1. Safe disposal of materials.
2. Competing demand from Navy.
3. Loss of fish habitat.
4. Historic preservation authorities.

Lead Agency:

U.S. Navy and U.S. Army Corps of Engineers

Priority: 3

Pacific Basin Development Conference
Workshop 1, Panel B
COASTAL ZONE MANAGEMENT
CNMI PROGRAM ELEMENT I
Commonwealth Mapping Program

Problem Definition:

1. Map Northern Islands at 1:10,000 scale showing topography, cultural features.
2. Map Saipan, Tinian, and Rota at 1:4,000 scale showing meter contourlines, major cultural features.
3. Assorted locations 1:200.

Plan of Action:

1. Hire contractor to conduct aerial photography, mapping.
2. Update existing orthophotos.

End Product:

Complete set of maps of Commonwealth.

Benefit:

1. Knowledge of geographical topographical constraints.
2. Standardize information for planning, census, tourism, and other purposes.
3. Assistance to potential developers.

Schedule:

First year: Define scope, contract consultant, conduct photography, prepare and deliver maps.

Estimated Cost:

\$280,000

Constraints:

1. Weather
2. Lack of mapping contractors
3. Transportation
4. Minimum of older maps and photographs

Lead Agency:

1. National Oceanic and Atmospheric Administration (NOAA)
2. USGS
3. Defense Mapping Agency

Priority: 1

Pacific Basin Development Conference

Workshop 1, Panel B
COASTAL ZONE MANAGEMENT

CNMI PROGRAM ELEMENT 2

Sand Budget-Littoral Drift Study

Problem Definition:

Study sand budget-littoral drift.

Plan of Action:

Contract a study of process and locations of sand movements on Saipan.

End Product:

Report, maps, and bibliography.

Benefit:

1. Defined sand resources constraint for construction of water based facilities, mining of aggregates, storm effect mitigation.
2. Protection of recreational beaches.
3. Erosion prevention.

Schedule:

First year: Contract consultant, complete study, mapping.

Estimated Cost:

\$250,000.

Constraints:

1. Minimal aerial photography.
2. Minimal baseline data.

Lead Agency:

U.S. Army Corps of Engineers -- Office of Coastal Zone Management, Environmental Protection Agency (EPA)

Priority: 1

Pacific Basin Development Conference

Workshop 1, Panel B
COASTAL ZONE MANAGEMENT

CNMI PROGRAM ELEMENT 3

Hydrographic Surveys of the Northern Mariana Islands

Problem Definition:

The present hydrographic charts of the Northern Marianas are outdated and inaccurate. New banks have been recorded which are not identified in the present charts.

Plan of Action:

1. To contract a research vessel to conduct extensive hydrographic surveys of the Northern Marianas.
2. To provide up-to-date hydrographic charts to the Commonwealth Government.

End Product:

An update of the hydrographic charts of the Northern Marianas will be available.

Benefit:

New fishing grounds will be made known to local fishermen.

Schedule:

Contract of a research vessel to conduct hydrographic surveys.

Estimated Cost:

\$200,000

Constraints:

The National Ocean Survey might not be able to conduct the survey. Research vessel might not be available.

Lead Agency:

Department of Natural Resources (CNMI), National Ocean Survey, U.S. Geological Service, Department of the Interior, MARAD, U.S. Army, Department of Defense.

Priority: 1

Pacific Basin Development Conference

Workshop 1, Panel B
COASTAL ZONE MANAGEMENT
CNMI PROGRAM ELEMENT 4

Erosion Prevention Study

Problem Definition:

Prevent further erosion in Northern Islands resulting from over population of wild goats and pigs.

Plan of Action:

1. Determine manageable level.
2. Institute management plan, harvest/relocate.

End Product:

Control and ongoing monitoring of population.

Benefit:

Prevent loss of soil, vegetation, damage to marine resources, migratory birds. Also nutritional benefits/marketable.

Schedule:

1. First year: Study harvest/relocation.
2. Ongoing annual monitoring.

Estimated Cost:

Transportation, salary, expenses -- \$395,000.

Constraints:

1. Feeding
2. Access

Lead Agency:

Fish & Wildlife Service, USDA, EPA/CNMI, State Department (International Migratory Bird Treaties).

Priority: 1

Pacific Basin Development Conference

Workshop 1, Panel B

COASTAL ZONE MANAGEMENT

CNMI PROGRAM ELEMENT 5

Shorefront Recreation Area Development

Problem Definition:

To expand recreational facilities and opportunities.

Plan of Action:

1. Prepare recreation plan incorporating SCORP and tourism needs.
2. Prepare facilities plan for identified recreation area.
3. Construct facilities and operate.

End Product:

1. Set of needs plans.
2. Set of facilities plans.
3. Contracted facilities.

Benefit:

Expanded recreational opportunities for local people and for tourists. Expanded tourism.

Schedule:

1. Six months.
2. 12 months.
3. Two years.

Estimated Cost:

1. \$25,000.
2. \$75,000.
3. \$3.6 million.

Constraints:

Funding, availability of land.

Lead Agency:

HCRS

Priority: 2

Pacific Basin Development Conference**Workshop 1, Panel B
COASTAL ZONE MANAGEMENT****CNMI PROGRAM ELEMENT 6****"Islands for Science" Institute****Problem Definition:**

Establishment of an "Islands for Science" Institute pursuant to designation of International Biological Programs.

Plan of Action:

1. Establish institute (self-contained facility: guest quarters, boat, jeep, fuel, etc.) to study biological, geological, and ecological features of the Northern Islands.

End Product:

1. Ongoing study.
2. Dissemination of information.
3. Economic improvements.

Benefit:

1. Knowledge of resources.
2. Opportunities for exploitation.
3. Benefit to international scientific community and awareness of Commonwealth.
4. Spinoff economic benefits to island base (Pagan Island).

Schedule:

First year: Locate funding source, correspond with individuals and institutions.

Second year: Begin construction.

Third year: Begin operation.

Estimated Cost:

\$300,000.

Constraints:

1. Lack of infrastructure.
2. Distance from regular supplies.
3. Lack of academic resources.

Lead Agency:

Smithsonian Institute, International Biological Programs/CNMI, USCS.

Priority: 2

Pacific Basin Development Conference

Workshop 1, Panel B
COASTAL ZONE MANAGEMENT

CNMI PROGRAM ELEMENT 7

Storm and Hazard Management

Problem Definition:

The potential for loss of life and property as the result of tsunami and storms and associated storm surge and flooding is increased in the Islands with increasing concentrations of population and structures in vulnerable coastal areas. Factors contributing to this potential include development in vulnerable areas, inadequate evacuation routes, maps and plans, lack of public awareness, and inadequate intergovernmental planning and cooperation.

Plan of Action:

1. Identifying specific coastal hazard problems and need for disaster mitigation and management activities.
2. Program technical and financial assistance.

End Product:

Risk assessments, storm evacuation maps, public education and awareness programs to be used and followed by appropriate Island agencies.

Benefit:

Improved protection of life and property and intergovernmental cooperation and coordination.

Schedule:

1. First year: Identify problems.
2. Second through fifth year: Program assistance.

Estimated Cost:

\$15,000/year -- 5 years.

TOTAL: \$75,000.

Constraints:

Defining the roles of FEMA and NOAA and establishing a cooperative working relationship.

Lead Agency:

NOAA

Priority: 2

Pacific Basin Development Conference
Workshop 1, Panel B
COASTAL ZONE MANAGEMENT
CNMI PROGRAM ELEMENT 8

Removal of Hazardous Materials from Beaches & Coastal Waters

Problem Definition:

Removal and relocation of hazardous war relics from beaches and coastal waters.

Plan of Action:

1. Arrangements with U.S. Navy/Army.
2. Survey relics to determine historical, habitat value.
3. Identify items for removal.

End Product:

One time clean-up.

Benefit:

1. Safe beaches.
2. Safer boating.
3. Higher aesthetic quality for Commonwealth environment.
4. Artificial reefs.

Schedule:

Arrange U.S. Navy/Army training exercise.

Estimated Cost:

\$300,000.

Constraints:

1. Safe disposal of materials.
2. Competing demand from Navy.
3. Loss of habitat.
4. Historic Preservation Authorities.

Lead Agency:

U.S. Navy and U.S. Army Corps of Engineers.

Priority: 2

Pacific Basin Development Conference

Workshop 1, Panel B
COASTAL ZONE MANAGEMENT

CNMI PROGRAM ELEMENT 9

Urban Waterfront Development

Problem Definition:

Improve the quality of the waterfront area in Harbor.

Plan of Action:

1. Prepare plan stressing water dependent uses.
2. Implement plan, renovate and construct near facilities.

End Product:

1. Plan for Harbor waterfront renovation.
2. Pleasing, efficient waterfront.

Benefit:

Increased use of Harbor urban areas, reduction of conflicting uses, improvement of visual qualities and enhanced tourism.

Schedule:

1. Study: Eight months.
2. Renovation and Installation of Facilities: Three years.

Estimated Cost:

\$650,000.

Constraints:

1. Funding.
2. Existing Development.

Lead Agency:

EDA,OCZM Interior, HCRS.

Priority: 2

Pacific Basin Development Conference

Workshop 1, Panel B

COASTAL ZONE MANAGEMENT**CNMI PROGRAM ELEMENT 10****Access Acquisition****Problem Definition:**

Access problems can be generically viewed as those which either physically or legally prevent or impede one's use of particular resource areas. Island systems generally present a wide range of access problems, e.g. lack of physical access to and transit along the shoreline and coastal waters, inland trails, hiking areas, lack of support facilities, and rights-of-way across private land. Resolution of these problems requires varying levels of capital investment and government cooperation and commitment. In any event, a comprehensive plan for developing access using a variety of techniques such as volunteer programs for clearing trails, easement coordination proceedings, fee-simple acquisitions, and land or rights-of-way dedication needs to be developed in order to assure access needs are satisfied and that capital investments are effective.

Plan of Action:

1. Evaluate access needs
2. Develop plans for acquiring access
3. Implement the plan

End Product:

1. Information on priority needs
2. A comprehensive, staged development of these program needs

Benefit:

1. Enhanced use of all available resource areas
2. Lower user densities in any one particular area
3. Enhanced user satisfaction

Schedule:

First year: Evaluate needs and develop access acquisition plan

Year 2-5: Implement plan

Estimated Cost:

\$100,000 per year

Total 5 year period: \$500,000

Constraints:

Zoning laws, permit acquisition, inability to acquire private land, lack of capital, removal of established infrastructure

Lead Agency:

Department of Public Works, Planning & Budget Affairs Office, Marianas Public Land Corporation, OCZM/DOC

Priority: 2

Pacific Basin Development Conference

**Workshop 1, Panel B
COASTAL ZONE MANAGEMENT**

CNMI PROGRAM ELEMENT 11

Assessment of Beach Restoration and Maintenance Problems

Problem Definition:

Beaches are a major recreational asset of the nation and the states, as well as being a major economic asset of the states. The maintenance of this asset through beach restoration and nourishment projects has stimulated the need for oceanographic information of both an engineering and biological nature.

Plan of Action:

1. A long-term assessment of offshore borrow areas, including:
 - a. Before dredging, the biomass and types of organisms present and the extent or uniqueness of the habitat.
 - b. After dredging, the rate of both physical and biological recovery of the site, and long term impact of the activity.
2. Inventory of reefs in the vicinity of proposed beach nourishment projects, i.e., baseline data.
3. Comparison of turbidity caused by nourishment projects to turbidity caused by coastal storm.
4. Field studies of wave run-ups on beaches to develop a predictive model.
5. Develop a predictive model of dune erosion caused by coastal storms (some work presently funded by Florida Department of Natural Resources).
6. Economic Studies of the importance of beaches to coastal communities and the states.

End Product:

Model to assess and project beach/shore maintenance needs.

Benefit:

Programmed activities (with costs) for beach/shore maintenance.

Schedule:

Yearly maintenance program.

Estimated Cost:

\$50,000/year. TOTAL: \$250,000.

Constraints:

Funding

Lead Agency:

NOAA/OCZM

Priority: 3

Pacific Basin Development Conference**Workshop I, Panel B
COASTAL ZONE MANAGEMENT
CNMI PROGRAM ELEMENT 12****Need for Coastal and Offshore Wave Data****Problem Definition:**

Waves are among the most important of oceanic environmental conditions which affect man in coastal regions, including both the shore and the adjacent continental shelves. Extensive knowledge of wave conditions is required for planning and design of shore, nearshore, and offshore projects and operations. Beach erosion and restoration, navigation, and coastal flooding problems cannot be adequately solved without a substantive knowledge of wave climate.

Plan of Action:

1. Collection of statistics of extreme sea states is vital for selecting design values for proposed offshore and coastal installations or assessing the suitability of certain equipment that may be exposed to severe sea states.
2. Improved data is required for development of better marine forecasting models, coastal management and planning, offshore environmental assessment and pollution programs, and input for local wave forecasts and disaster predictions.
3. Collect wave data, since available wave data are inadequate and consist of visual estimates of wave conditions made from ships, some scientific measurements made for short time periods, a few long-term measurements made from piers and offshore platforms, and hindcast values of insufficient accuracy and at large distances from this coast.

End Product:

1. Accurate measured wave data collected to satisfy user requirements. Greatly increased benefit will accrue from data suitable for analysis to determine wave energy frequency and directional spectra.
2. Long-term wave conditions monitored to obtain an accurate statistical description of the frequency of occurrence of specific wave conditions, particularly severe wave conditions. Existing wave data do not satisfy these requirements.
3. Field data, particularly on extremes, will be collected which is required to calibrate and verify hindcast forecast models to obtain quickly the long-term statistics, and to provide the forecasts necessary for operations.

Benefit:

Marine operations and ocean construction are extremely costly and solution of this problem would result in estimated cost savings of \$50 million to \$100 million per year. Known wave conditions and better wave forecasts are required to select equipment, to plan operations, and to reduce downtime. Comprehensive knowledge of wave conditions is essential for the optimum design of offshore structures, coastal erosion preventive measures, breakwaters, and submarine pipelines.

Schedule: 1980 - 1982

Estimated Cost: \$105,000.

Constraints: Funding.

Lead Agency: NOAA/OCZM

Priority: 3

Pacific Basin Development Conference**Workshop 1, Panel B
COASTAL ZONE MANAGEMENT
CNMI PROGRAM ELEMENT 13****Acanthaster Planci Study****Problem Definition:**

1. Determine the extent of the reef killing threat of Acanthaster Planci.
2. Determine whether infestation is a cyclical phenomena or the result of environmental imbalance.
3. Determine what benefits result from infestation, if any. What is the ecological significance of the Acanthaster Planci?
4. Provide ongoing monitoring.

Plan of Action:

1. Hire a consultant to search literature, review studies, control methods.
2. Communicate with knowledgeable individuals and institutions.

End Product:

1. Report bibliography recommended plan of action.
2. Ongoing monitoring.

Benefit:

1. Territorial capability to understand the phenomenon and be prepared to take action, if necessary.
2. Contribution to scientific knowledge.
3. Prevention of serious threat to corals, habitat, marine life, etc.

Schedule:

First year: Basic research compilation and distribution of information. Development action, if necessary.

Estimated Cost:

\$125,000

Constraints:

1. Lack of information.
2. Possible incorrect information as reason for action.
3. Apathy because of apparent 10-year cycles.
4. Lack of awareness that problem exists.

Lead Agency:

NOAA/Department of Interior/Univeristy of Guam.

Priority: 3

Pacific Basin Development Conference**Workshop 1, Panel B
COASTAL ZONE MANAGEMENT
CNMI PROGRAM ELEMENT 14****Permit Simplification****Problem Definition:**

Time-consuming and inefficient permit processing caused by poor communication, lack of coordination, duplication of effort, lack of specific decision-making criteria and, consequently, loss of predictability in the review process.

Plan of Action:

Develop a predictable review process that provides not only for permit "simplification" strategies but also those that act to (a) coordinate multiple or duplicative permit requirements, and (b) consolidate or eliminate steps in the permitting sequence.

End Product:

Improved governmental procedures for reviewing actions affecting coastal land and water resources.

Benefit:

1. Greater acceptability to developers
2. Reduced uncertainty in outcomes
3. Comprehensive public review
4. Savings in time and money
5. Long-term preservation and conservation of coastal resources

Schedule:

First year: Study and recommend

Second year: Demonstration

Third to fifth year: General application

Estimated Cost:

\$36,000

Constraints:

1. Legal
2. Political/institutional
3. Economic

Lead Agency:

NOAA/Territory

Priority: 3

REPORT OF THE TELECOMMUNICATIONS PANEL

Workshop 2, Panel A

GOALS & OBJECTIVES

The goal of the Telecommunications Panel was to cooperatively create a five-year Regional Plan that considers the individual and collective telecommunications needs of the Pacific Basin Islands - toward the establishment of a more complete and reliable telecommunications system.

ISSUES

The basic issue presented for consideration to the Panel participants was the pressing need for reliable and versatile communications facilities in the Region and within each Island group. The separation of the Island groups from each other, and also from the Pacific Rim nations, by thousands of ocean miles, results in a situation of near isolation that can potentially be overcome by expanding telecommunications efficiency.

The Pacific Basin Region is primarily dependent on outside investment sources (public and private) for initiatives that can lead to economic development and growth in the area. Those initiatives, tourist and conference hotels, fishing fleets, energy research, demonstration projects, transshipment and processing centers, regional business headquarters, etc., require facile non-interruptive communications for effective operation.

Additionally, many of the individual islands of the major groups do not have adequate communications between themselves. This absence constrains intra-island economic activity and trade. Hence, telecommunication is a critical component to expand economic development and social growth intra-island, intra-regionally, and to expand economic ties outside of the Region. It was also recognized that good communications is a prime factor in the development of ports and transportation capability (including airports).

PARTICIPATION

Nineteen persons participated in the Panel sessions; eight representing business and industry, five representatives from the Island governments, five Federal government representatives and one representative from academia. The Associate Administrator, National Telecommunication and Information Administration (NTIA) attended the sessions as a resource person, and the Panel Chairman was assisted by a Telecommunications Policy Analyst of NTIA. The Participants' names and organizational affiliations are shown on the next page.

TELECOMMUNICATIONS PANEL PARTICIPANTS

Workshop Vicechair:

William Lucas National Telecommunications and Information Service
Associate Administrator U.S. Dept. of Commerce

Panel Chair:

Richard Barber Pacific Telecommunications Council
Director Honolulu, HI

Participants:

Joan Abramson	Hawaii Loa College
David L. Cahn	No. Marianas Legislature
Frank Clark	Public Affairs Counsel, HEW-IX, San Francisco
Robert M. Engelhardt	Hawaiian Telephone
C.W. Getz	GSA, San Francisco
Jay Morgan Kellers	RCA Global Communications, New York
William A. Klatt	RCA Global Communications, New York
George A. Lawler	Int'l Communications Satellite Corp. Washington, D.C.
Peter McManamon	NTIA, Boulder, CO
Fred W. Morris	Telecommunications Mgmt. Consultant, Portola, CA
Jack O'Neill	NTIA, Washington, D.C.
Adrian Perry	Kentron, Int'l., HI
E. George Richards	Kentron, Int'l., Texas
John T. San Agustin	Guam Telephone Authority
Norman L. Santos	RCA Global Communications, Guam
William L. Smith	Micronesian Tele. Corp.
Glen Willardson	Polynesian Cultural Center

ORGANIZATION & OPERATIONS

With an ideal number of participants for efficient contribution to the Panel's goal, the Panel Chairman convened the session and called for the review of the telecommunications materials contained in the Conference Workbook. Special attention was directed to the necessity to review the Workshop Background Paper and Panel Issue Paper.

A suggested program element included with the need to inventory and assess the overall communications situation of the Region and Island groups. Such a assessment would establish the basis for planning current and future requirements in an economically and technically sustainable manner. Other suggested program elements clustered in three areas: (1) emergency communications facilities and information networks; (2) technologies of telecommunication/computer mixed voice/word contacts; and (3) improving telephone and radio services to and from and among the Pacific Basin Islands.

The Panel's discussion and deliberations of the program elements resulted in four programs being ranked Priority 1 (Immediate Need). The elements were categorized as both Basic and Major programs. No program elements were designated Priority 2 (Long-Range) or Priority 3 (Back-Up) and the table below details the additions, combinations, deletions and transfers of the originally suggested twelve program elements of the Telecommunications Panel.

TELECOMMUNICATIONS PANEL 2-A

Program Element Inventory

Suggested Program Elements	12
Additions and/or Transfers In	4
Deletions, Combinations, Transfers Out	<u>12</u>
Final Program Elements	4

Cost estimates were established for the final four elements, schedules were reviewed and revised as necessary, which formed the five-year strategy for Regional Telecommunications development.

PROGRAM RECOMMENDATIONS

The table below details the program elements, priorities, and five-year estimated cost.

TELECOMMUNICATIONS PANEL 2-A FIVE-YEAR ESTIMATED PROGRAM COSTS (\$000)

<u>PROGRAM ELEMENT</u>	<u>BASIC</u>	<u>MAJOR</u>	<u>TOTAL COST</u>
Priority 1 (Immediate Need)			
1. Regional Telecommunications Requirements Study & Satellite Operations	500	51,500	52,000
2. Local Telecommunication Planning Studies Grants	1,000	-0-	1,000
3. Local Telecommunication Improvements Grant Program	1,200	-0-	1,200
4. Local Telecommunication Loan Assistance Program	-0-	33,000	33,000
Priority 2 and 3			
No Designations			
GRAND TOTALS	\$ 2,700	\$84,500	\$87,200

OVERALL RECOMMENDATIONS

The Telecommunications Panel participants offered the overall recommendations below, to be strongly considered by the Conference - especially regarding the satellite.

1. Take immediate action to assess the need for a Pacific Basin communication satellite.
2. Implement a process of assisting Island people to assess and meet their local telecommunications needs.
3. Establish a Pacific Island telecommunications regulatory and advisory service.

Pacific Basin Development Conference**Workshop 2, Panel A
TELECOMMUNICATIONS
PROGRAM ELEMENT 1****Pacific Basin Regional Telecommunication Requirements Study****Problem Definition:**

A more complete and reliable telecommunications system is required if the widely separated island groups are to cooperate effectively for their economic development and welfare. Before deciding upon specific courses of action it would be useful to assess the overall communications situation and formulate a plan for meeting current and future needs in ways that are economically and technically sustainable.

Plan of Action:

1. Review literature and analyze studies previously conducted.
2. Visit the islands and consult with local governments and citizen groups to inventory current facilities and to determine needs, including from a market (economic) standpoint.
3. Determine Federal agency inventory requirements.
4. Formulate several long-range scenarios based on data from actions 1 and 2 above, taking into account future possible developments in the Pacific area.
5. Among other approaches, consider the possibilities of utilizing a satellite specifically designed or altered for Pacific Island usage, to be shared by island states in addition to the other American Pacific Islands.
6. Recommend, following additional consultation with the Islands, a five-year plan of action for establishing a satellite-based telecommunication system.
7. Implement the system.

End Product:

Technically and economically workable strategies to meet the telecommunications needs of the islands in the form of a five-year plan.

The following needs should be specifically addressed:

1. Affordable, reliable telephone system supporting the smaller islands.
2. Pacific Basin Information networks which include video, data, facsimile, and broadcasting services to provide an integrated communication system capable of supporting educational, medical, governmental, cultural and social, and rehabilitation services.
3. A Pacific Basin emergency communication system including a storm and hazard information network.
4. Linked computer information network for Coastal Zone Management.
5. Necessary changes in national regulatory structures and international agreements and practices.

Benefit:

Provision of adequate communication services for the Pacific Islands to meet educational, health, governmental, economic and other needs.

Schedule:

1. Review, consultation and inventory -- six months to one year.
2. Scenarios, consultation and formulation of a five-year plan - one year.
3. Satellite operations - year two.

Estimated Cost:

1. Review, consultation and inventory	\$ 200,000
2. Scenarios, consultation and five-year plan	300,000
3. Satellite operations (in years 2-5)	<u>51,500,000</u>
GRAND TOTAL	\$ 52,000,000

Constraints:

1. Lack of reliable information regarding telecommunication needs and experience in the Pacific Island area.
2. Regulatory process and rules.

Lead Agency: U.S. Department of Commerce/NTIA

Priority: 1

Pacific Basin Development Conference

Workshop 2, Panel A
TELECOMMUNICATIONS
PROGRAM ELEMENT 2

Local Telecommunications Planning Program

Problem Definition:

Need for comprehensive telecommunication plan for the Islands.

Plan of Action:

Federal government establish grant program for a number of studies by the several island areas.

End Product:

Specific needs studies from local entities, and action plans for implementation, including such topics as computer conferencing, and computer-based education services and 911 emergency service.

Benefit:

Sponsors rational growth of public and private sector telecommunications for the general betterment of society.

Schedule:

Six months planning - implementation as soon as possible.

Estimated Cost:

\$1 Million in total over two years, divided into individual study grants when requested by the Pacific American territories.

Constraints: None

Lead Agency: Department of Commerce

Priority: 1

Pacific Basin Development Conference

Workshop 2, Panel A
TELECOMMUNICATIONS
PROGRAM ELEMENT 3

Local Telecommunications Grant Assistance

Problem Definition:

Lack of funds for needed telecommunications improvements.

Plan of Action:

Federal government establish a grant assistance program.

End Product:

Assistance to implement plans developed from studies by local entities.

Benefit:

Improve coverage, quality, and reliability of telecommunication systems; introduce needed additional telecommunication systems to enhance economic and social development; and provide training programs to supply qualified personnel.

Schedule:

Implementation to follow as needs and requirements are identified.

Estimated Cost:

\$300,000 per year - Four year grant program to territorial governments and agencies.

Total cost: \$1.2 million

Constraints:

1. Lack of Federal awareness of the importance of telecommunication infrastructure to economic and social development.
2. Difficulty of developing proposals for specific services program support, particularly for low cost facilities and equipment.
3. REA rules for funding.

Lead Agency: Department of Commerce

Priority: 1

Pacific Basin Development Conference

Workshop 2, Panel A
TELECOMMUNICATIONS
PROGRAM ELEMENT 4

Local Telecommunications Loan Development Assistance Programs

Problem Definition:

Lack of funds for needed telecommunications improvements.

Plan of Action:

Federal government establish a loan development assistance program.

End Product:

Assistance to implement services developed from studies by local entities.

Benefit:

Improve coverage, quality, and reliability of telecommunication systems; introduce needed additional telecommunication systems to enhance economic and social development, and provide training programs to supply qualified personnel.

Schedule:

Implementation to follow as needs and requirements are identified.

Estimated Cost:

\$33.0 Million loan program to telecommunications carriers.

Constraints:

Lack of federal awareness of the importance of telecommunications infrastructure to economic and social development.

Lead Agency: Department of Commerce

Priority: 1

REPORT OF THE PORT PANEL

Workshop 2, Panel B

GOAL & OBJECTIVE

The Port Panel goal was to cooperatively develop a five-year regional plan to begin the process of creating a port system supportive of efficient commercial and passenger movements. Specifically, the Panel participants developed the following objectives :

1. Encourage and facilitate economic development in the Pacific Basin by providing appropriate mechanisms and means for the Region's ports to develop in such a manner as to serve and foster local, regional, and international trade and transportation.
2. Establish a mechanism by which priorities and programs for Pacific Basin port development can be developed and implemented through the most effective utilization of available local, Regional, Federal, and international financial resources.
3. Establish universal awareness of the unique and crucial role Pacific Basin ports play in local, regional, and international development.
4. Establish a consensus among those involved in or affecting development of Pacific Basin ports that these objectives are desirable and can be implemented.

ISSUES

The major issues of the Island governments were the need for expansion of pier and other port (including fishing) facilities; the lack of docking facilities at smaller, outlying islands; restricted land use for major port expansion; and harbor entrance

development/maintenance. But to reach the goal of a cooperative five-year port development plan for the Region, and to provide an infrastructure that can effectively support and encourage increasing commercial cargo and passenger movement, it would be necessary to conduct careful and detailed studies. This deduction emerged because port development is a highly capital-intensive part of transportation infrastructure and a regional port system is a major requirement for cooperative economic development and growth of this widely ocean-separated Region.

Also, studies and planning would provide the opportunity for agreement among the Island governments on the specific roles of individual ports as the Regional port system would be confronted with a complex mix of needs ranging from commercial fishing to floating facilities of various types to conserve limited land areas. To create a more complete matrix of information and analysis for port development, the studies should be coordinated with such matters as: (1) investment strategies for financing port development; (2) guidelines for terminal design and operations; (3) trends in types of vessels and with recommendations of other Panels within the Conference, e.g., Trade, Tourism, Fisheries, etc.

PARTICIPATION

The Port Panel participation of 19 persons was almost equally divided between representatives of Island governments (6), of industry and labor (7), and the Federal government (6). The Western Regional Director, Maritime Administration attended the sessions as a resource person and the Panel Chairman was assisted by the Director of the Office of Ports and Intermodal Development, Maritime Administration. A listing of Panel participants and their organizations are shown on the following page.

ORGANIZATION & OPERATIONS

Chairman Grove convened the Panel and called for a review of the Panel goal and objectives, the Issue Paper and suggested program elements contained in the Conference Workbook. MarAd Western Regional Director, T.J. Patterson, Jr., offered prepared remarks to the assembled Panel which summarized recent growth in the port industry of the U.S. West Coast. He pointed out that containerships play the predominate role in trans-Pacific trade, that intermodalism impacts U.S. trade more than any other, and that greater growth increases will occur as the construction of "super containerships" is achieved.

He went on to highlight trade developments in the Pacific Islands by briefly summarizing the results of a recent co-sponsored MarAd/Hawaii DOT study regarding cargo shipments between the U.S. mainland and the Trust Territories. Mr. Patterson characterized Honolulu as the main transshipment point to Kwajalein and Majaro, and Guam as the major transshipment point for the remaining Trust Territories cargo. He listed the various shipping lines operating including a tug and barge service from the West Coast to Samoa, Tahiti and Fiji. In conclusion, he called for shipping facilities improvements (in the Island Territories) before trade can flourish extensively in the Pacific Basin Region.

With these thoughts in mind and with data from the Background and Issue Papers, the Panel participants addressed the task of cooperatively creating the five-year Regional plan for a port system. The results of the Panel's deliberations regarding the program elements is shown below.

PORT PANEL 2-B Program Element Inventory

Suggested Program Elements	13
Additions and/or Transfers In	24
Deletions and/or Transfers Out	<u>20</u>
Final Program Elements	17

PROGRAM RECOMMENDATIONS

The Panel recommended 17 programs to implement the five-year strategy and ranked 12 program elements as Priority 1 (Immediate Need), three program elements as Priority 2 (Long-Range), and two programs as Priority 3 (Back-Up). The majority (11) of these ranked programs were categorized as Major Programs and six Priority 1 program elements were categorized as Basic Programs.

Beginning with the need to establish a Regional port development plan, the Panel's recommendations ranged from developing legislative recommendations to secure financial investment capital through the needs for transportation logistics models and waterborne commerce statistics for specific port facilities expansion/development on individual Islands. The table on the following pages detail each program element, its priority, ranking, and estimated five-year cost.

POR T PANEL 2-B
FIVE-YEAR ESTIMATED PROGRAM COSTS
($\$000$)

<u>PROGRAM ELEMENT</u>	<u>BASIC</u>	<u>MAJOR</u>	<u>TOTAL COST</u>
Priority 1 (Immediate Need)			
1. Cooperative Pacific Island Port Planning Study	650	-0-	650
2. Legislation for Port Development Investment Funds	-0-	-0-	-0-
3. Am. Samoa Main Dock Expansion	-0-	12,000	12,000
4. Am. Samoa Marine Railway Expansion	-0-	3,400	3,400
5. Am. Samoa Overhead Ramp	300	-0-	300
6. Guam-U.S. Navy Property Release & Facilities Relocation	-0-	-0-	-0-
7. Guam Port Development	-0-	13,500	13,500
8. Saipan Port Development	-0-	6,000	6,000
9. Pagan Island Port Development	-0-	800	800
10. Am. Samoa Inter-Island Transportation	-0-	2,700	2,700
11. Waterborne Commerce Statistics	75	-0-	75
12. Maritime Transportation Logistics Model	180	-0-	180
Sub-Totals	\$ 1,205	\$38,400	\$39,605

POR T PANEL 2-B, Cont.

<u>PROGRAM ELEMENT</u>	<u>BASIC</u>	<u>MAJOR</u>	<u>TOTAL COST</u>
Priority 2 (Long-Range)			
13. Am. Samoa Inter-Island Pier Improvement	-0-	5,900	5,900
14. Pago Pago Harbor Marina	-0-	500	500
15. Tinian Island Port Development	-0-	1,600	1,600
Sub-Totals	-0-	\$8,000	\$ 8,000
Priority 3 (Back-Up)			
16. Saipan Launching Ramp & Channel Dredging	-0-	1,500	1,500
17. Rota Island Port Development	-0-	4,700	4,700
Sub-Totals	-0-	\$6,200	\$ 6,200
GRAND TOTALS	\$ 1,205	\$52,600	\$53,805

OVERALL RECOMMENDATIONS

The Port Panel offered the following reinforcing recommendations for the five-year port development strategy.

1. In light of regional, Federal and local needs, that the critical role and high priority of port development in the economic development of the Pacific Basin be recognized through commitment of sufficient financial and technical resources, such new Federal grant and loan programs as necessary to accomplish implementation of a Regional port development plan.
2. That immediate port development needs be met in accordance with established priorities, in recognition of the necessity of providing adequate port facilities as an initial step in development of the Pacific Basin.
3. That recognized constraints to development of Pacific ports be removed in as expeditious manner as possible.

Pacific Basin Development Conference**Workshop 2, Panel B
PORTS****PROGRAM ELEMENT I****Cooperative Pacific Islands Port Planning Study****Problem Definition:**

Ports are the lifelines of the Pacific Islands. They are the absolute basis of economic development. As a first step in making coordinated physical improvements to the regional port system, a regional plan should be prepared for each island group and for the Pacific Region as a whole.

Plan of Action:

1. Prepare an inventory of all port facilities. Survey local port authorities, shippers, vessel operators and others.
2. Prepare an assessment of needs including demand and market analysis, commodity flow analysis, and projections of future cargo through-put.
3. Consider alternative plans for port facilities to meet the future cargo projections.
4. Evaluate the methods of funding the port facilities and recommend funding strategies.
5. Analyze the following and other appropriate factors:
 - a. Marine Terminal Site Evaluation
 - b. Vessel Trends Feasibility Analysis
 - c. Terminal Design and Operational Guidelines
 - d. Assess Entrance Channel Requirements
 - e. Commercial Fishing Port Facilities
 - f. Small Craft Facilities
 - g. Marine Fuel Supply
 - h. Vessel Wastes Discharge Facilities
 - i. Trans-shipment Feasibility Studies

End Product:

1. Port Development Plans for Guam, CNMI, and American Samoa.
2. A Regional Port System Plan.

Benefit:

An adequate and efficient Pacific Islands Port System that will be self-sufficient.

Schedule:

Eighteen months completion.

Estimated Cost: \$650,000

1. Regional Plan - \$200,000
2. Individual Port Systems Plans at \$150,000 each times 3 equals \$450,000

Constraints:

1. The political reality of recommending roles for specific ports.
2. The difficulties in defining regions consistent with established definitions.
3. Obtaining cooperation of all the parties involved which may be adversely affected.
4. Environmental and land use constraints at port sites.
5. Necessity of study being conducted by persons with Pacific Islands expertise.

Lead Agency:

Department of the Interior/ Department of Commerce

Priority: 1

Pacific Basin Development Conference**Workshop 2, Panel B
PORTS****PROGRAM ELEMENT 2****Legislation to Provide Port Development Capital Investment Funds
for the Pacific Basin Region****Problem Definition:**

The Pacific Basin regional governments, in contrast to the U.S. mainland, do not have sufficient financial resources to provide shoreside port facilities. This shortage of investment capital necessary for port development severely constrains the economic development of the respective regions.

Plan of Action:

Department of the Interior Territorial Affairs to consult with Department of Treasury to draw up and submit enabling legislation.

End Product:

Inclusion of port development projects in financing arrangements undertaken by the Pacific Basin Development Bank.

Benefit:

Formation of such a financial institution would provide a funding source not now available to U.S. Pacific Island governments.

Schedule:

Institute as soon as possible.

Estimated Cost: None**Constraints:**

Lack of existing institution of this nature.

Lead Agency:

U.S. Department of the Interior working with the U.S. Department of Treasury.

Priority: 1

Pacific Basin Development Conference**Workshop 2, Panel B
PORTS****PROGRAM ELEMENT 3****Expansion of American Samoa's Main Dock and Container Yard****Problem Definition:**

To accommodate LASH ships and the significant increase in containerized cargo shipment.

Plan of Action:

1. Modify preliminary design to meet current harbor demands
2. Seek funding for construction.
3. Solicit bids for construction work.
4. Begin construction immediately.

End Product:

Extension of main dock by 1,280 feet; expansion of port handling and storage.

Benefit:

1. With the addition, the main dock will be able to handle 800 foot LASH ships more efficiently.
2. Improved safety through better storage of containers.
3. Increased port revenues through volume processing.

Schedule:

Construction - One year

Estimated Cost: \$12,000,000

Constraints:

Lack of funding.

Lead Agency:

Department of the Interior/COE/EDA/Maritime Administration

Priority: 1

Pacific Basin Development Conference**Workshop 2, Panel B
PORTS****PROGRAM ELEMENT 4****American Samoa Marine Railway Expansion****Problem Definition:**

To upgrade marine railway facilities production capability to handle 2,000 to 3,000 ton vessels. Feasibility study has been completed.

Plan of Action:

1. Seek financial assistance.
2. Solicit bids and begin construction.

End Product:

Expansion will include a 125-foot east bulkhead, a 225-foot west bulkhead, and a drydocking facility.

Benefit:

1. Reinforcement of support services for the fishing vessels and port equipment.
2. Revenues are estimated to increase by \$1,000,000 annually, plus the creation of 100 new jobs.

Schedule:

Construction - One year

Estimated Cost: \$3,400,000

Constraints:

Lack of funding.

Lead Agency:

DOI/EDA/Maritime Administration

Priority: 1

Pacific Basin Development Conference

**Workshop 2, Panel B
PORTS**

PROGRAM ELEMENT 5

Construction of Overhead Ramp at Main Dock--American Samoa

Problem Definition:

To enable cruise ships to dock without closing all port operations.

Plan of Action:

Feasibility study detailed on supporting documents.

End Product:

A ramp and observation deck for disembarking cruise ship passengers.

Benefit:

Increase port efficiency and revenue and enhanced handling capability.

Schedule: 1981

Estimated Cost: \$300,000

Constraints: Funding

Lead Agency:

Department of Transportation/EDA/MARAD

Priority: 1

Pacific Basin Development Conference**Workshop 2, Panel B
PORTS****PROGRAM ELEMENT 6****Guam - Navy Property Release and Relocation of Ammunitions Wharf****Problem Definition:**

Current Naval land ownership and ammunition off-loading operations proximate to Guam's port impede the development and expansion of the port and surrounding areas on Cabras Island.

Plan of Action:

1. Enact Federal legislation transferring ownership of entirety of Cabras Island and portions of Drydock Point and Drydock Island to the Government of Guam for management by the Port Authority.
2. Upon completion of requisite preliminary studies, select an alternate site for off-loading of ammunition by the Navy and provide necessary funding for timely construction of needed facilities.
3. Complete a Master Plan for Guam's port and a detailed land use plan for Cabras Island through assistance of federal planning grants.
4. Institute an aggressive promotional and marketing program for development of a cargo and tuna transshipment industry at Guam's port.
5. Implement items 3 and 4 above through provision of financial and operations-related incentives, consistent with a regional system plan for port development.

End Product:

Removal of constraints impeding, and implementation of plans providing for, development of Guam's port and related industry activities on Cabras Island and surrounding areas.

Benefit:

Improved facilities will lead to more cargo and tuna transshipment volume, more revenue, increased employment opportunities, and the establishment of related support facilities and industry. This will also provide greater back-haul potential, luring more shipping lines, resulting in greater involvement in international and regional trade, and in development of the local and regional economy.

Schedule:

1. Enact federal legislation transferring lands, institute Port Master Plan, select alternate site for Ammunition Wharf, and identify funds for construction of new wharf -- six months.
2. Complete and implement Cabras Island Master Plan -- one year.
3. Relocate ammunition off-loading operations to new site upon completion and construction of expanded port container yard -- two years.

Estimated Cost:

1. New ammunition wharf -- funded by the Department of Defense
2. Transfer of Navy lands -- no cost.

Constraints:

1. Congressional and/or Executive delay or opposition in enacting land transfer legislation.
2. Department of Defense reluctance to release land or relocate ammunition wharf.
3. Inability to locate satisfactory alternate ammunition off-loading site.

Lead Agency:

Department of Defense and Department of the Navy

Priority: 1

Pacific Basin Development Conference**Workshop 2, Panel B
PORTS****PROGRAM ELEMENT 7****Guam Port Development****Problem Definition:**

Increasing demands for servicing of cargo and tuna transshipment and passenger vessels at Guam's port are exceeding the capacity of the current facilities.

Plan of Action:

To expand the port's container yard, provide adequate cold storage and berthing areas for tuna transshipment and cargo vessels and passenger terminal facilities.

End Product:

More efficient and accommodating port for both transshipment and passenger services.

Benefit:

Increased transshipment volume, more revenue, increased employment opportunities, and establishment of related support facilities and industry. Greater backhaul potential, luring more shipping lines, resulting in greater involvement in international and regional trade, and in development of the local and regional economy.

Schedule:

Planning and engineering - Year 1

Construction and installation - Years 2 and 3

Estimated Cost: \$13,500,000

Constraints:

1. Availability of funds.
2. Delay in release of surrounding Navy properties.
3. Competition from other regions for tuna transshipment.

Lead Agency:

Department of Commerce

Priority: 1

Pacific Basin Development Conference**Workshop 2, Panel B
PORTS****PROGRAM ELEMENT 8****Saipan Island Port Development
Commonwealth of the Northern Mariana Islands****Problem Definition:**

Adequate harbor and port facilities are major requirements for the economic development of Saipan, CNMI. Docking facilities are inadequate to accommodate large vessels. Port improvement is a matter of survival.

Plan of Action:

Conform with the Physical Development Plans of the CNMI to improve the Saipan harbor and port:

1. Design of improvements to Charlie Dock.
2. Design of improvements to Baker Wharf.

End Product:

Removal of constraints to accommodate appropriate vessels to service the rapid economic development of Saipan, CNMI.

Benefit:

Improved facilities to readily provide economical and timely delivery of goods and shipment of exports.

Schedule:

1. Improve Charlie Dock facilities -- 2 years
2. Improve harbor and entrance channel -- 1 year
3. Improve Baker facilities -- 2 years.

Estimated Cost: Total of \$6,000,000

1. Charlie Dock -- \$3,300,000
2. Saipan harbor and channel -- \$2,000,000
3. Baker Wharf -- \$700,000

Constraints:

1. Lack of funds.
2. Construction will have to be placed to minimize disruption of port operations.

Lead Agency:

COE, EDA, CNMI, DOI, MarAd

Priority: 1

Pacific Basin Development Conference**Workshop 2, Panel B
PORTS****PROGRAM ELEMENT 9****Pagan Island Port Development
Commonwealth of the Northern Mariana Islands****Problem Definition:**

Pagan in the Northern Marianas offers perhaps the greatest potential for tourism, fishery and agricultural developments. The greatest impediment to development on Pagan is the lack of an adequate port facility for cargo and passenger vessels to offload. Presently, cargoes are ferried by small motorboats or barges to shore, a hazardous practice due to high surfs.

Plan of Action:

Master plan the port area on Pagan, complete with architectural and engineering drawings and construction cost estimates ready for construction bidding upon availability of funds.

End Product:

The installation of a safe and efficient port facility on Pagan will promote safe handling of cargoes and passengers and will eliminate completely ships accidentally hitting the reefs or being grounded. Construction of infrastructure facilities long delayed could be started because of availability of imported construction materials. Port improvement will encourage migration of former and new residents to Pagan who will be engaged in fishery and agricultural activities.

Benefit:

In addition to the above benefits, others include encouragement of more fishing vessels to stop on Pagan for supplies and materials. Permanent port facility will offer protection to fishing boats during storms. Port in Pagan will improve inter-island shipping services and scheduling. New industries could locate on Pagan such as quarry operation and geothermal electrical generation.

Schedule:

Twenty-four (24) months for feasibility study, master-planning, A/E design and construction.

Estimated Cost: \$800,000**Constraints:**

1. Lack of funds.
2. Distance from Saipan (about 200 miles) increases transportation costs and cost of construction materials.
3. Lack of infrastructure on Pagan will slow down construction or delay it, which could add to total cost.

Lead Agency:

DOI, Corps of Engineers, EDA, MarAd, CNMI

Priority: 1

Pacific Basin Development Conference**Workshop 2, Panel B
PORTS****PROGRAM ELEMENT 10****American Samoa Inter-Island Transportation****Problem Definition:**

Enable transportation between the seven islands of the Territory and Canton Island.

Plan of Action:

1. Obtain LCU and tug.
2. Develop inter-island shipping and scheduling systems.

End Product:

Improved port operations, inter-island shipping and transport, and backup search and rescue capability.

Benefit:

Same as above.

Schedule: 1980**Estimated Cost: \$2.7 Million****Constraints:**

Availability of funding

Lead Agency: Department of the Interior, MarAd, EDA**Priority: 1**

Pacific Basin Development Conference**Workshop 2, Panel B
PORTS****PROGRAM ELEMENT 11****Waterborne Commerce Statistics****Problem Definition:**

The statistical base relating to waterborne commerce between the United States and its territories is inadequate. Additionally, the data base and statistics relating to waterborne commerce among islands in the Pacific Region is inadequate for growth planning.

Plan of Action:

The statistical systems currently existing for the United States domestic waterborne commerce should be extended to include the territories on a more current basis. (Part A)

An analysis should be made of statistical sources of commerce data between Pacific Islands as well as point sources of import and export outside the region. These would include sources such as OECD, UN, ASEAN and EEC. (Part B)

End Product:

A regular throughput analysis of waterborne commerce in the Pacific Basin.

Benefit:

A base from which to analyze growth patterns and strategies.

Schedule:

Project would require approximately six months during FY 80/81.

Estimated Cost:

\$75,000 (Part B only, Part A cost is 0).

Constraints: Funding**Lead Agency: MarAd****Priority: 1**

Pacific Basin Development Conference**Workshop 2, Panel B
PORTS****PROGRAM ELEMENT 12****Maritime Transportation Logistics Model****Problem Definition:**

To enable potential operators as well as concerned federal, state, and local agencies to compare on a quantifiable basis, the relative total operating and capital cost of alternative systems to harvest, process, and deliver to the wholesale market specific species of fish and shellfish from designated waters.

Plan of Action:

1. With technical advice from National Marine Fisheries Service and other appropriate sources, develop the outline of a generalized economic evaluation model which reflects the capabilities and limitations of alternative equipment systems, and terminal locations under certain assumptions as to variable conditions, all relating to species, requirements, and regions defined in: Prospectus for Development of United States Fisheries, prepared by E.R. Combs, Inc. in May, 1979, for the National Marine Fisheries Service, Department of Commerce.
2. Taking Alaska and the Pacific Basin as unique representative areas where needs have been identified, establish an advisory group composed of fishing industry members including harvesters, processors, ports, and related transportation systems as well as appropriate local, state and regional development agencies; review the outline with this group to ensure that it meets local needs and that the necessary input data can be obtained.
3. Develop a scope of work, solicit for proposals among qualified contractors acceptable to the advisory group, award contract based on recommendations of a Proposal Review Board consisting of representatives of MARAD, NMFS and appropriate members of the Advisory Group.
4. Have contractor prepare an inventory of the characteristics of the existing port facilities and their fishing fleets in Alaska and appropriate areas of the Pacific Basin.
5. After a review of that inventory, have the contractor develop model symbols and logic to represent the following input for which the user will derive values and unit costs (capital and operating) from records, or from estimates using guidelines as noted in paragraph 8:
 - a. Description of appropriate general classes of fishing vessels (existing or proposed) in terms of dimensions, capacity, speed, crew size, harvesting rate, and fuel consumption, based on specific gear and techniques used for designated species, processing and storage capabilities, endurance and unloading methods.
 - b. Descriptions of support facilities necessary for such vessels such as moorings, processing plants and maintenance facilities (existing or

- proposed) located either on vessels or barges in port, or in buildings on shore, with processing and storage capabilities, throughput limitations, etc., identified for specific species and degree or pre-processing of fish when received.
- c. Descriptions of vessels and cargo transfer methods for transportation and logistic support from fishing grounds through processing points offshore, including (1) alternatives for collection and crew rotation which would enable existing fishing fleet vessels of limited size to be used more effectively offshore, and (2) expanded use of containerization and refrigeration to safeguard product quality.
 - 6. Discuss the above operational and physical characteristics with the Advisory Group as a tentative list of scenarios from which potential operators would be able to compare innovative and traditional alternative systems in terms of ability to market specific species at competitive prices under a range of assumptions concerning weather, availability of fish and congestion of vessels on the grounds and at the terminals.
 - 7. Upon reaching agreement on the above, have contractor develop the evaluation model using computer language, and user manuals geared to the needs of the users and the type of inventory data stored in memory banks.
 - 8. With the help of the Advisory Group, develop a base case for test and demonstration purposes, then test and de-bug the model. For equipment or vessels for which historical records can be derived, provide guidance to help the user develop estimates of unit cost and performance parameters; for systems for which local precedents are lacking, provide calculated nominal estimates for such parameters. Incorporate model and documentation in a user manual; publish manual through NTIS.

End Product:

A validated model with all necessary instructions by which potential operators may compare the cost effectiveness of alternative systems under a range of operating conditions, which can be readily available to all U.S. offshore fisheries.

Benefit:

This would be used to assist the operator in decision making, and strengthen the rationale behind any specific application for Federal or state funding, giving the Federal or state agency responsible for allocation of such funds a quantifiable basis on which to make allocations. The unique benefit lies in the fact that it covers all links in the system from fishing grounds to wholesale market and thereby reveals the impact of decisions at each link upon each other and on the total cost under a range of assumptions concerning variable conditions.

Schedule:

Industry coordination	Feb. - March, 1980
Solicitation and award	April - July, 1980
Contract period:	
Phase I (see Par 4-6)	Aug. 1980 - June 1981
Phase II (see Par 7-8)	July 1981 - Dec. 1981

Estimated Cost:

FY 1980 - .25 Man Years (\$80,000)

FY 1981 - .25 Man Years (\$100,000)

Constraints:

Difficulty in data collection.

Lead Agency: MarAd

Priority: 1

Pacific Basin Development Conference**Workshop 2, Panel B
PORTS****PROGRAM ELEMENT 13****American Samoan Inter-Island Pier Complex Improvement****Problem Definition:**

To improve the existing pier and facilities for the efficient processing of inter-island passengers and cargo.

Plan of Action:

1. Survey shipping agents, boat operators, customs, immigration, and quarantine agents to ascertain existing problems in processing inter-island traffic.
2. Ascertain requirements for pier complex.
3. Develop plans for improvements.
4. Solicit bids and begin construction.

End Product:

A processing facility and dock extension.

Benefit:

1. Improved processing of cargo and passengers.
2. Ship jumping by aliens would be minimized.
3. Port revenues will increase through better control of incoming cargoes.
4. Traffic at the Main dock will be restricted to large ships.

Schedule:

Design and construction - 1 year.

Estimated Cost: \$5,900,000

Constraints:

1. Lack of funding.
2. Environmental impact statement may take a long time to process.

Lead Agency:

MarAd, Corps of Engineers, EDA, CZM, DOT, NMFS, Fish & Wildlife

Priority: 2

Pacific Basin Development Conference

**Workshop 2, Panel B
PORTS**

PROGRAM ELEMENT 14

Pago Pago Harbor Marina

Problem Definition:

Upgrade current fish pier complex to provide Marina services to yachts seeking refuge in Pago Pago Harbor, particularly with regard to health and water quality standards.

Plan of Action:

1. Review of A & E developed by Port Administration
2. Obtain appropriate permits.
3. Construction of seven finger piers.
4. Construction of floating piers.
5. Lease operation of Marina to private sector.

End Product:

Revenue producing Marina.

Benefit:

Revenue generation, improved water quality, improved health.

Schedule: 1981/1982

Estimated Cost: \$500,000

Constraints: Lack of funding.

Lead Agency: EDA, EPA, HUD, CZM, SBA

Priority: 2

Pacific Basin Development Conference**Workshop 2, Panel B
PORTS****PROGRAM ELEMENT 15****Tinian Island Port Development****Problem Definition:**

The port facilities on Tinian, which include two piers and docking facilities, were built by the Military as part of the World War II operations. Age and typhoons have deteriorated most of the facilities. About 1,200 feet of dock face needs improvement before it collapses.

Plan of Action:

1. Study the existing dock face to determine the feasibility of re-strengthening and hardening.
2. Prepare construction documents to include possible resurfacing.
3. Construct.

End Product:

The people of Tinian will have a rehabilitated and useful port facility.

Benefit:

The Island, whose people are farmers or who are employed by farm operations such as the dairy and cattle industry, will have a port facility to help in establishing economic stability. The economic benefits will benefit the entire Marianas Chain including Guam. The port will also encourage additional fishing activities.

Schedule: 18 months**Estimated Cost: \$1.6 Million****Constraints:**

Lack of funds.

Lead Agency: EDA, DOI**Priority: 2**

Pacific Basin Development Conference**Workshop 2, Panel B
PORTS****PROGRAM ELEMENT 16****Launching Ramp & Channel Dredging at Laulau Beach, Saipan****Problem Definition:**

Easy access to the good fishing grounds in the eastern part of Saipan is not available. No launching ramp exists at the east side of Saipan. The channel is too narrow and shallow. Boats launched on the western side of Saipan use a large amount of fuel to reach the good fishing grounds on the windward side of the island.

Plan of Action:

1. Build a launching ramp at Laulau Beach.
2. Dredge the channel for safer access and install navigational aids.
3. Improve road access and provide necessary light and water.

End Product:

A launching ramp and a safe channel will be available at Laulau Beach.

Benefit:

Fishermen will have easy access to the fishing grounds on the eastern side of Saipan and will be able to save fuel and time.

Schedule:

1. Construction of a launching ramp and dredging of channel.
2. Construction of water, electrical and toilet facilities.

Estimated Cost: \$1.5 Million**Constraints: Lack of funding.****Lead Agency: COE****Priority: 3**

Pacific Basin Development Conference**Workshop 2, Panel B
PORTS****PROGRAM ELEMENT 17****Rota Island Port Development****Problem Definition:**

The East Dock on Rota was destroyed by super Typhoon Pamela in 1976. Phase I of a two-phase harbor construction is underway on West Dock. Phase I would provide for a usable harbor. Phase II would provide for an all-weather harbor. The dock facilities are not part of these two projects. The Northern Marianas Physical Development Master Plan programs improvement and construction of the dock facilities.

Plan of Action:

1. Determine the facilities for total port operation such as hardstand, dock face, container yard, administrative offices.
2. Prepare construction documents.
3. Construct.

End Product:

The people of Rota will have a modern port to help economic development, including an all-weather harbor and dock to handle containerized cargo.

Benefit:

The island will be able to receive goods safely and export its agricultural products. Being blessed with good soil and climatic conditions suitable for growing leafy vegetables, and being close to Guam, a major market area, it will contribute to the overall economic development of the region.

Schedule: 2 years

Estimated Cost: \$4.7 Million

Constraints: Lack of funds.

Lead Agency: DOI, EDA, MarAd

Priority: 3

REPORT OF THE TRANSPORTATION PANEL

Workshop 2, Panel C

GOAL & OBJECTIVES

The goal for the Transportation Panel was to create a five-year regional plan to develop the individual Island and Regional water, land, and air transportation system in a manner which supports economic development. The Panel participants established the following objectives:

1. Develop individual Islands and Regional water, land, and air transportation systems to support economic development.
2. Lay analytical foundation for construction programs.
3. Improve existing laws affecting transportation in the Islands.

ISSUES

The primary issue for consideration was that any strategy or program for increasing trade, tourism, fishing and other economic-growth activities in the Region will require -- in fact, demand -- concerted modernization and expansion of the region's sea, air, and land transportation systems.

The program elements suggested for consideration by the Island governments (improved airport facilities, highway/road construction/maintenance, mass transit feasibility studies, electric vehicle demonstration project, etc.) acknowledged a recognition of transportation improvement needs -- especially when viewed together with similar suggestions for the Port Panel of this Workshop. In short, regional economic development and growth is directly dependent on the capacity of the various transportation modes of these far distant Island groups.

Other issues of concern were constraints to transportation expansion, e.g., (1) U.S. bilateral aviation agreements; (2) airline de-regulation; (3) rapidly escalating fuel

costs; (4) lack of regular air charter service, etc.; (5) and the lack of technologically advanced container capability and transshipment systems.

Another inter-related issue of concern was the extraordinarily high per capita number of automobiles in confined land areas coupled with the lack of efficient mass transit systems resulting in increased petroleum product consumption and accompanying adverse effects on air quality.

PARTICIPATION

The Transportation Panel had a total membership of 19 people. Business and industry representatives totaled eight, Island representatives totaled seven, and representatives from the Federal government and academia totaled three and one, respectively. The Panel Chairman was supported by a transportation professional from A.T. Kearney, Inc., and the Maritime Activities Director of the Port of Oakland, CA, acted as key resource person. The following page lists the Panel participants and their organizational affiliations.

TRANSPORTATION PANEL PARTICIPANTS

Workshop Vicechair:

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Manalytics, Inc.
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Panel Chair:

Andy Pellacani
Deputy Executive Manager

Guam Airport Authority
Tamuning, Guam

Participants:

Alexander Bolton	Matson Navigation Co., HI
Capt. B.G. Burns	U.S. Coast Guard, HI
Dave Cahn	Northern Marianas Legislature
Victor Churchward	A.T. Kearney, Chicago
Jack R. Davidson	University of Hawaii
Guy Davis	Manager, FTZ, Honolulu
Herbert Eng	Commissioner, Port of Oakland
Gen. Henry Hatch	U.S. Army Corps of Engineers, HI
Maiava "Oliver" Hunkin	Port Administration, Pago Pago
William W. Milks	State of HI, Department of Regulatory Agencies
Thomas T. Morris	American President Lines, Oakland, CA
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Paul W. Rasmussen	U.S. Dept. of Transportation, San Fransicso
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Ben Taguchi	M & E Pacific Consulting Engineers
George A. Wray	South Pacific Island Airways Pago Pago, American Samoa
Robert Y. Yotsuda	Kauai County Council

ORGANIZATION & OPERATIONS

Chairman Pellacani convened the Panel and called for opening remarks from resource person Mr. Jim O'Brien, Director of Maritime Activities, Port of Oakland, California.

The Panel reviewed materials in the Workbook, including Background and Issue Papers, and listing of program elements. The Panel proceeded to establish objectives from the suggested goal and discussed the program elements both by grouping into areas of concern and by individual Island needs. A new program element was added and the participants then began the task of formulating the cooperative five-year strategy for Regional/Island transportation development.

Aware of the necessity to first address Regional concerns, the Panel's deliberations regarding the program elements are shown in the table below.

TRANSPORTATION PANEL 2-B Program Element Inventory

Suggested Program Elements	32
Additions and/or Transfers In	1
Deletions, Combinations, and/or Transfers Out	<u>24</u>
Final Program Elements	9

PROGRAM RECOMMENDATIONS

The Transportation Panel recommendations were both for Basic and Major Program categories. The final nine program elements were ranked as follows: three in Priority 1 (Immediate Need), four in Priority 2 (Long-Range), and two in Priority 3 (Back-Up). The Priority 1 programs (all Basic) concerned studies, and the Priority 2 and 3 programs (all Major) related to aviation and highway/road developments and mass transit/airline development, respectively. The table on the following page details each program element, its ranking, category, and estimated five-year cost.

TRANSPORTATION PANEL 2-C
FIVE-YEAR ESTIMATED PROGRAM COSTS
(*\$*000)

<u>PROGRAM ELEMENT</u>	<u>BASIC</u>	<u>MAJOR</u>	<u>TOTAL COST</u>
Priority 1 (Immediate Need)			
1. Regional/Island Transportation System Requirement Study	600	-0-	600
2. Maritime Laws/Regulations Impact Study	50	-0-	50
3. Aviation Laws/Regulations Impact Study	50	-0-	50
Sub-Totals	\$ 700	-0-	\$ 700
Priority 2 (Long-Range)			
4. Airport Facilities Development	-0-	10,000	10,000
5. Inter-Island Transportation Systems	-0-	100,000	100,000
6. Island Highway/Roads Construction	-0-	25,000	25,000
7. Island Highway/Roads Operations & Maintenance	-0-	3,000	3,000
Sub-Totals	-0-	\$138,000	\$138,000
Priority 3 (Back-Up)			
8. Mass Transit Development	-0-	5,000	5,000
9. No. Marianas Regional Airline	-0-	10,000	10,000
Sub-Totals	-0-	\$15,000	\$15,000
GRAND TOTALS	\$ 700	\$153,000	\$153,700

OVERALL RECOMMENDATIONS

In addition to the ranked program for transportation development, the Panel offered the following overall recommendations:

1. Develop plan to define Regional transportation needs by mode.
2. Establish coordination among air carriers, civic organizations, tour industries, and shippers.
3. Modify air and maritime laws to promote economic growth of Pacific Basin Islands.
4. Establish airport facilities on those Islands of Northern Marianas and American Samoa which do not have adequate facilities.
5. Fund purchase of passenger/cargo vessels for inter-island service.
6. Change allocation of funds to support highway development in the Islands.

Pacific Basin Development Conference**Workshop 2, Panel C
TRANSPORTATION****PROGRAM ELEMENT 1****Regional/Island Transportation System Requirements Study****Problem Definition:**

The orderly economic and social development of the Pacific Basin Islands is heavily dependent upon the availability of appropriate and adequate transportation facilities. These facilities must integrate land, sea and air transportation in a manner which not only serves the specific needs of each geographical area, but which integrates the Pacific Basin with major air and maritime trade routes extending to all parts of the world.

Plan of Action:

Initiate a comprehensive consultant study of the transportation needs of the Northern Mariana Islands, Guam, American Samoa and Hawaii. This study is to relate to the overall growth of these islands which can reasonably be expected from the development of tourism, diversified agriculture, the resources of the sea such as fisheries, deep ocean mining, and other revenue producing industries.

End Product:

A comprehensive report identifying the major transportation equipment and facilities required to support the orderly development of the growth industries in the area as a whole and in each jurisdiction, with a conceptual plan for providing these facilities over a logical period of time. The rationale for these facilities should be clearly explained and an estimate of cost in current dollars provided. Potential sources of development funds and maintenance and operational dollars are to be identified.

Benefit:

A clearer understanding of the nature of the overall transportation needs of the area as they relate to economic growth and social development. The study will provide a basis for the generation of individual programs and projects to support this growth.

Schedule:

Phase 1 - 9 months - Examine the growth industries for the area and identify the transportation needs associated with each.

Phase 2 - 12 months - Identify the specific equipment and facilities required for each area with the requisite costs and funding information.

Estimated Cost:

Phase 1 - \$150,000 + Phase 2 - \$450,000 = \$600,000

Constraints: Availability of funds.**Lead Agency: DOC, DOT****Priority: 1**

Pacific Basin Development Conference

**Workshop 2, Panel C
TRANSPORTATION**

PROGRAM ELEMENT 2

Maritime Laws/Regulations Impact Study

Problem Definition:

Define the various application of U.S. maritime laws and governmental regulations to the different political entities with a view towards equitable application.

Plan of Action:

1. Conduct an in-depth analysis of the U.S. maritime laws and regulations applicable to the various political entities (i.e., vessel documentation, vessel inspection, operational differential subsidies (ODS), construction differential subsidies (CDS), Jones Act, FMC jurisdiction, FWPCA, Title XI loan guarantees, etc.)
 - a. Evaluate the benefits and detriments of uniform applications of these laws vis-a-vis island to island and continental U.S. to Pacific Basin.
 - b. Determine cost-benefit of application or exemption from these laws.
2. Preapre a report recommending changes to current applicability of U.S. maritime laws.

End Product:

Prepare appropriate legislation to change existing U.S. maritime laws that would promote economic growth among the U.S. Pacific Basin Islands.

Benefit:

1. Would increase commercial activity in the region.
2. Would spur private sector investment.
3. Potential for larger scale transshipment activity.
4. Would be in accord with the Federal government's desire to provide a framework in which private investment and development can flourish.
5. Create an awareness that maritime laws now applicable to the continental U.S. maritime interests may not have the same applicability to the Pacific Basin Islands.

Schedule:

- | | |
|-------|---|
| 6/80 | Approval of PBDC |
| 9/80 | Contract for consultant for study preparation awarded. |
| 12/80 | Concurrence reached with Pacific Island Communities, MarAd, FMC, USCG, etc. |

- 1/82 Administrative bills to Congress.
- 12/82 New laws passed
- 12/83 Regulation enacted.

Estimated Cost: \$50,000

Constraints:

- 1. Reluctance of different government agencies to have different application of existing and new U.S. laws.
- 2. Congressional approval.

Lead Agency: Department of Transportation

Priority: 1

Pacific Basin Development Conference**Workshop 2, Panel C
TRANSPORTATION****PROGRAM ELEMENT 3****Aviation Laws/Regulations Impact Study and Policy Reform****Problem Definition:**

The Pacific Island communities have truly unique air transportation problems, principally attributable to (1) great distances involved, (2) sparse population centers, (3) unique mixes of freight and passenger loads, and (4) abnormally high reliance on foreign traffic, all of which characteristics have sometimes been slighted or totally disregarded by recently enacted Federal law and long-standing international air transport policies.

Plan of Action:

First, there must be a comprehensive analysis of the air transport systems now operating to and among the Pacific Island communities.

Secondly, after such analysis, there must be a single comprehensive plan for a total system composed of long haul, local, and commuter service components which, when wholly integrated will support long haul flag carrier services operating within and over the Pacific.

Thirdly, the following devices conceived by Federal agencies should be adopted to further the interests of the Pacific Island communities.

1. Expansion of the CABs concept of "essential air services" to make it more applicable to the Pacific Region.
2. Revise provisions in present and future bilateral agreements and Federal statutes in order to increase the quality and quantity of Pacific Basin air services.
3. Reconsider economic regulation of Pacific air transport, given dictates of energy, competition, etc.

Fourth, continual review and consideration of carriers' operating requirements, e.g. exemptions, suspension of closed-door provisions, traffic with promotional pricing provisions, quid-pro-quo service requirements.

End Product:

Better coordination among components of air travel -- i.e., carriers, civic parties, tour industry, freight shippers.

More compatible interface between carriers, e.g., hb-spoke feeder systems, co-ordination of schedules, joint fares, etc.

Benefit:

Short term: a better air transport system serving the public residing or travelling to the Pacific Basin.

Long term: Promotion of tour industries and promotion of products of the agriculture and aqua-culture industries of the Pacific communities.

Schedule:

- 6/80 Federal agency approvals of proposal
- 6/81 Phase A: Consultant contract completed on the analysis of the present systems.
- 6/82 Phase B: Completion of study of an integrated system.
- Now Review and consideration of policy determinations by CAB, Department of State, USTS, IATA, etc.

Estimated Cost: \$50,000

Phase A - \$20,000

Phase B - \$30,000

Constraints:

1. Certain parties forfeiture of certain limited rights/benefits presently employed.
2. Vested interests of incumbent carriers.
3. Reversal of federal attitude of de-regulation of the economics of transportation, i.e., air fares and route authorities.

Lead Agency:

Department of State, Department of Commerce (USTS), CAB

Priority: 1

Pacific Basin Development Conference**Workshop 2, Panel C
TRANSPORTATION****PROGRAM ELEMENT 4****Airport Facility Development****Problem Definition:**

Design and construct specific airport facilities for the American Pacific Islands.

Plan of Action:

Step One - Submittal of proposals to appropriate federal agencies by each island community.

Step Two - Expeditious review and approval by federal authorities and funding agencies.

Step Three - Release funds for all projects September 30, 1984.

End Product:

Air transport activity can rise to the levels required.

Benefit:

Short term - Immediate increase in available air transport.

Long term - Enhanced visitor industry and flow of agricultural and fishery products.

Schedule:

To be determined by date of submittal of proposals by each Pacific community.

Estimated Cost: \$10,000,000

Constraints:

Availability of fund, requisitioning of land, and other local and federal regulatory approvals.

Lead Agency: DOT

Priority: 2

Pacific Basin Development Conference**Workshop 2, Panel C
TRANSPORTATION****PROGRAM ELEMENT 5****Inter-Island Transportation Systems****Problem Definition:**

There is currently an above average cost of transporting cargo and passengers between the Pacific Basin Islands which is restricting to the development and economic growth of the Pacific Basin political entities.

Plan of Action:

1. Survey potential demand and economic feasibility.
2. Determine private sector interest and/or operation of the vessels.
3. Determine the types of ships most suitable for employment in the different trading areas.
4. Determine amount of government participation that would be available for financing ship construction, and operating subsidies.
5. Determine immediate and long term vessel needs, i.e., there is an immediate short term need for a \$2 million small combination passenger/cargo vessel for inter-island service in American Samoa.
6. Evaluate need for feeder ships vis-a-vis direct calls by long-haul container ships.

End Product:

1. A coordinated regional inter-island transportation system to promote economic development.
2. Immediate funding for small combo passenger/cargo ship for American Samoa.

Benefit:

Development of transportation infrastructure that adequately supports regional development in such areas as tourism, capital-intensive manufacturing and business services.

Schedule:

- | | |
|-------|---|
| 6/80 | Approval of PBDC |
| 9/80 | Contract for consultant for study preparation awarded. |
| 10/80 | \$2 million to American Samoa for acquisition of small inter-island combo ship. |
| 6/81 | Study completed |
| 1/82 | (1) Application for CDS and Title XI financing
(2) Service routes awarded |

5/82 Construction contracts awarded

Estimated Cost

\$100 million for overall system

\$2 million for American Samoan ship

Constraints:

1. Existing maritime laws
2. Availability of funds

Lead Agency:

U.S. Department of Transportation

Priority: 2

Pacific Basin Development Conference**Workshop 2, Panel C
TRANSPORTATION****PROGRAM ELEMENT 6****Island Highway/Road System Construction****Problem Definition:**

Limitations of local financial resources of the territories needed to implement the territories' approved roads and highway system plans.

Plan of Action:

1. Prepare architecture and engineering plans for the construction of roads and highways based on the approved multi-year roads and highway system plans for each of the territories.
2. Let contracts for the construction of the identified roads and highway projects.
3. Monitor progress of construction project.

End Product:

Completion of actual construction of roads and highways.

Benefit:

An efficient road and highway system which would promote greater mobility of local people and island visitors, as well as commerce and trade.

Schedule: A & E -- One year

Estimated Cost: \$25,000,000

Constraints:

Potential time delay in completion of A & E.

Lead Agency: DOT

Priority: 2

Pacific Basin Development Conference

**Workshop 2, Panel C
TRANSPORTATION**

PROGRAM ELEMENT 7

Operations & Maintenance Programs

Problem Definition:

Limitation of local financial resources which are needed to maintain existing and new roads and highway projects in progress.

Plan of Action:

1. Assessment of existing roads and highway support equipment, machinery or facilities to determine present status of reports.
2. Acquire, if necessary, equipment and machinery.
3. Recruit and train operations/maintenance personnel.
4. Prepare, if necessary, programs for preventive maintenance.
5. Construct, if needed, maintenance facilities.

End Product:

1. Adequate maintenance equipment, including a facility.
2. Trained operations and maintenance personnel.

Benefit:

Efficient, safe roads and highways.

Schedule:

1. Prepare an operations plan, recruit personnel and project equipment, ready adequate facilities -- year one.
2. Maintain roads and highways -- on-going.

Estimated Cost: \$3,000,000.

Constraints:

Escalating costs due to inflation and shipping policies.

Lead Agency:

Department of Transportation

Priority: 2

Pacific Basin Development Conference**Workshop 2, Panel C
TRANSPORTATION****PROGRAM ELEMENT 8****Mass Transit Development Studies and Action Plans****Problem Definition:**

Despite their confined areas, the Pacific Basin jurisdictions have extraordinarily high per-capita numbers of automobiles and poor mass transit systems, resulting in a plethora of problems, including those related to energy consumption.

Plan of Action:

1. Investigation of passenger demand for mass transit system(s) and the characteristics of this demand, including the ability of the population to pay for the transportation services.
2. Review any previous attempts to initiate mass transit systems in the territories, including the role of Federal and local governments or their autonomous agencies.
3. Examine existing infrastructure and consider problems of maintenance.
4. Review economic and investment factors. Determine degree of federal technical and financial assistance necessary.
5. Prepare plans and program requests describing demand for mass transit system(s) in the various jurisdictions. Submit these requests to the Urban Mass Transit Administration (UMTA) within the U.S. Department of Commerce (DOT) for review and approval.

End Product:

Plans describing demand for mass transit system(s) in the territories and recommendations for establishing or improving such systems.

Benefit:

Alleviation of problems resulting from a high density of automobiles on the islands. More efficient transportation service for islanders and tourists.

Schedule: Six months to one year.**Estimated Cost:**

Planning Grant Funds -- \$100,000 to \$200,000

Capital Funds -- \$4.5 million with \$500,000 in local 10% match.

Constraints:

None, as far as making the study is concerned. Capital funds may be limited.

Lead Agency: DOT/UMTA**Priority: 3**

Pacific Basin Development Conference**Workshop 2, Panel C
TRANSPORTATION****PROGRAM ELEMENT 9**

Northern Marianas Regional Airline

Problem Definition:

There is a need to provide chartered and scheduled air service within the Northern Marianas Commonwealth and between Guam, Japan, Taiwan, etc.

Plan of Action:

1. Institute action to purchase or lease the required aircraft.
2. Determine who the appropriate federal/international authorities are and the constraints.
3. Locate funding sources, obtain permits, licenses, etc.

End Product:

Purchase aircraft under Commonwealth flag.

Benefit:

1. Establishment of an important minority owned corporation.
2. Assure the Commonwealth's air service needs will be met in the future.
3. Provide a low cost alternative to existing expensive air service.
4. Facilitate inter-island business and government functions.
5. Increased distribution of tourist market.
6. Employment opportunities.

Schedule:

1. Obtain planning funds, coordinate and resolve constraints with federal and international agencies - First Year.
2. Purchase aircraft, hire pilots - Second Year.

Estimated Cost: \$10,000,000 Development Loan

Constraints:

1. Extent of existing authorities that must approve.
2. Lack of trained manpower.
3. Availability of aviation fuels locally.

Lead Agency: FAA/CAB

Priority: 3

REPORT OF THE TRADE PANEL

Workshop 3, Panel A

GOALS & OBJECTIVES

The goal of the Panel was to develop a five-year strategy for Region/Island business development which expands trade (domestic, intra-island, and foreign) in order to decrease buying (import) of goods and services outside the Region and to provide a surplus of goods and services that can be sold (exported) to others, outside the Region. The specific objectives were: (1) to expand domestic trade and foreign exports to achieve a positive regional balance of trade by maintaining the per capita amount of imports to the Region at the current level, increasing exports from the Region by 60% by 1990, and attaining a zero balance of trade in the Pacific Island Region by the year 2000; and (2) to take an active role in the U.S. economic efforts to achieve a positive international balance of trade, by increasing foreign exports/trade (including tourism) by 125% by 1990 and attaining a positive international balance of trade within the Region by 2020.

ISSUES

The background issue, which formed the foundation for the Panel's discussion, was that the Pacific Basin Regional trade deficit was highly excessive (estimated at \$2.4 billion in 1976, more than doubling from \$1.0 billion in 1970) and that each island's economy contributed to that deficit, except American Samoa. The impact of recent price increases in oil products could cause the Regional deficit to swell to \$3.0 billion by 1985, if current imbalances of imports versus exports continue unabated. The result would have disastrously adverse effects on National efforts to achieve a positive balance of trade.

Data contained in the Panel's Workbook Issue Paper detailed the Region's specific economic constraints: the Region lacks land for extensive agricultural development and its population density is more than twice that of the Mainland U.S., (56 persons per square mile on the continent versus 144 persons per square mile in the Region);

the fact that nearly one-half of the employees in American Samoa, Guam and the Northern Marianas work for the Federal or local government, while only one-quarter of Hawaii's civilian labor force is in government; and the high level of importance that government receipts have in the Regional economy. In 1976 estimates of receipts from major industries indicated that Government spending, including defense, accounted for nearly one-half (\$2.25 billion) of the total (\$4.54 billion) Regional income.

Therefore, expanding economic activity as a base for trade internationally and among the Islands is dependent on: (1) increasing the capacity for producing goods and services that are valuable domestically and abroad; (2) removing/resolving obstacles to increased exports of goods and services; (3) effective marketing of Regionally produced goods and services to each other as 'import' substitutes; (4) the sensitive and intelligent tapping of the millions of square miles of ocean resources; and (5) attaining a level of energy self-sufficiency which allows some control of energy cost.

The Panel participants' discussions centered around the need for: (1) assessing the existing overall Regional trade situation, (2) assessment of existing trade policies, laws and regulations as they relate to barriers and/or incentives, (3) the need for planning, financing, initiating business development -- including increasing procurement opportunities -- supported by management and technical assistance to developmental efforts.

PARTICIPATION

Appropriately, business and industry representatives (12) were the largest contingent of total participants (31) in the Trade panel followed by a significant group of Island Government representatives (11) - mostly those with economic development responsibilities. The Assistant Secretary-Designate of Commerce for Trade Development and The NOAA Special Counsel for Law of the Sea attended the sessions, acting as resource persons. The Panel Chairperson was supported and assisted by an economic development/international trade professional from Payne-Maxie Consultants. A listing of Panel participants and their organizations is shown on the following page.

TRADE PANEL PARTICIPANTS

Workshop Vicechair:

Stanley Hong
Vice President

T.H. Davies & Co., Ltd.
Honolulu, HI

Panel Chairs:

Robert H. Jones
Vice President

Jones & Guerrero Co.
Agana, Guam

Participants:

Wanda Ale	U.S. Department of Commerce, Washington, D.C.
Jose C. Ayuyu	Department of Commerce & Labor, Saipan
Patricia A. Bond	American Samoa Office, Honolulu
Guy Davis	FTZ No.9, Honolulu
Carl M. Fonoimoana	Polynesian Cultural Center, Hawaii
George J. Fukunaga	Servco Pacific, Inc., Honolulu
D.B. Griffin III	Bank of Hawaii, Honolulu
John T. Guerrero	Saipan Chamber of Commerce
T. K. Hitch	First Hawaiian Bank, Honolulu
Drew Kayne	Government of Guam
Keiji Kawakami	Iolani Sportswear, Honolulu
Robert Knecht	Special Counsel for Law of the Sea, NOAA
Kenneth Kwak	International Trade Specialist, Honolulu
Shelley Mark	University of Hawaii
Mike McClure	Guam Growth Council
Malcolm D. McPhee	Pacific Development Associates
Jay Merrill	Guam Growth Council
David Nakagawa	Small Business Administration, Honolulu
Yosef Patel	U.S. Department of Commerce
Jim Payne	Payne-Maxie Consultants, Berkeley
Dr. Bruce S. Plasch	Consultant, Honolulu

Trade Panel Participants, Contd.

Joseph M. Pereira	American Samoa
Jesus L. Perez	Guam Economic Development Authority
Robert C. Raymond	U.S. Department of HEW, Washington, D.C.
George Roberts	U.S. Customs Service, Honolulu
Fred Rohlfing	American Samoa Office, Honolulu
Juan R. Sablan	Northern Marianas Economic Development Loan Fund
Herta Seidman	Ass't Secretary, Trade Dev., Dep't of Commerce
Ambrose Senda	Legislature, Ponape
Thomas V. C. Tanaka	15th Guam Legislature

ORGANIZATION & OPERATIONS

The Trade Panel, directed by Chairman Bob Jones, convened and accepted one new program element. The Panel adjourned to individually review the new program element and the Panel materials contained in the Conference Workbook. These informational materials included a Background and an Issue paper and 42 suggested program elements.

Reconvening, the participants noted that some program elements were duplicates, that is, some elements addressed segments of specific concerns, e.g., a Regional economic development loan fund and loan funds for particular development activities in agriculture and aquaculture. However, the Panel participants decided to rank all program elements prior to the combining of elements that covered similar concerns.

All 43 program elements were ranked into levels of priority and elements of similar/interrelated concerns were combined and rewritten/revised to formulate the five-year investment strategy of trade development, both for the Region and for individual Islands. The results of these deliberations regarding program elements is shown in the table below.

TRADE PANEL 3-A Program Element Inventory

Suggested Program Elements	42
Additions and/or Transfers In	1
Combinations and/or Transfers Out	<u>32</u>
Final Program Elements	11

PROGRAM RECOMMENDATIONS

Generally, the Trade Panel recommendations evolved into areas of assessment studies (the current trade situation including policy, laws and regulations), developmental planning, marketing and promotion (including Trade Zone incentives), capital

investment funding capability, developmental projects (to increase export capacity and/or to provide opportunities to reduce imports), and business development via management and technical assistance.

Six programs were ranked Priority 1 (two Basic and four Major); four programs were ranked Priority 2, all Basic; and one Basic program was ranked Priority 3. The table on the following page details the program element ranking, priorities, and identification of Basic or Major category and the estimated five-year costs.

TRADE PANEL 3 - A
FIVE-YEAR ESTIMATED PROGRAM COSTS
($\$$ 000)

<u>PROGRAM ELEMENT</u>	<u>BASIC</u>	<u>MAJOR</u>	<u>TOTAL COST</u>
Priority 1 (Immediate Need)			
1. Regional/Island Trade Assessment Study	475	-0-	475
2. Business Information & Assistance Center	1,800	-0-	1,800
3. Regional Development Bank	-0-	285,000	285,000
4. Agricultural Development Program	-0-	2,500	2,500
5. Precious Coral Survey No. Mariana Islands	-0-	75	75
6. Piggery/Abattoir Study American Samoa	-0-	530	530
Sub totals	\$ 2,275	\$288,105	\$ 290,380
Priority 2 (Long-Range)			
7. Federal Financing for Marketing Studies	7,500	-0-	7,500
8. Broiler/Fryer Chicken Production	300	-0-	300
9. Tangan-Tangan Utilization	1,550	-0-	1,550
10. Fish Scrap Fertilizer Development	150	-0-	150
Sub totals	\$ 9,500	-0-	\$ 9,500

TRADE PANEL 3-A

Five-Year Estimated Program Costs, Contd.

Priority 3 (Back-Up)

11. Foreign Trade Zone #9 Promotion and Regional Trade Zone Studies	150	-0-	150
Sub totals	150	-0-	150
GRAND TOTALS	\$ 11,925	\$288,105	\$ 300,030

OVERALL RECOMMENDATIONS

The Trade Panel offered the following recommendations to support and reinforce the program recommendations of the trade five-year investment strategy.

1. Private sector, Island and Federal Governments continue to communicate through conferences of this type.
2. Through continued good communication a much better understanding of the needs of the people in the region will be achieved, bringing about more cooperation and less confusion.
3. Federal Government should recognize the acute need for investment capital and low cost loan funds to finance both extensive large development projects and the small business community.

Pacific Basin Development Conference**Workshop 3, Panel A
TRADE****PROGRAM ELEMENT 1****Regional/Island Trade Assessment Study****Problem Definition:**

The Islands have limited economies and resources: in land, developed energy sources, industrial production capacity, and in some cases limited available and skilled workforce. Therefore, the Region imports more goods -- especially petroleum -- and services than they export. A resultant Regional trade 'deficit' is incurred which dampens indigenous growth.

To eliminate this deficit and to expand the Regional economic base for domestic trade, the Region and Islands need an integrated short and long-term plan for growth with targets and an investment strategy -- interisland and internationally. Since economic development in the Pacific Basin Territories and Islands is strongly affected by U. S. legislation, politics, and policies, this planning effort must be preceded by a comprehensive assessment of Federal laws and regulations, which restrict and constrain economic development in the Pacific Basin.

Plan of Action:

1. Identify and assess major areas of concern to the region which are affected by U. S. legislation, politics, and policies, including international relations, trade and maritime policies, immigration laws, tax and tariff regulations, airline regulation, etc.
2. Identify areas of concern in order of importance to economic development and categorize them in terms of long or short time frames.
3. Inventory levels of current imports/exports and determine the specific goods and services which most contribute to the regional trade deficit.
4. Develop a plan of approach to U. S. Government agencies to clarify issues and address questions concerning policies and programs.
5. Recommend administrative or legislative action to repeal or rescind conflicting or counter productive laws and recommend suitable alternatives.
6. Create short-term (two years) and long-term (five years) Region/Island trade development plans -- with consideration for inter-island trade -- with accompanying investment strategy and growth targets.
7. Devise business growth mechanisms to foster and support economic development activities which contribute to exports.
8. Encourage industries most suitable to the islands and assist manufacturers to locate facilities in the islands.
9. Provide an effective permanent liaison mechanism for island governments in the region on trade matters and for negotiations with the U. S. State Department.
10. The Pacific Basin Regional Council will select an appropriate organization to accomplish the foregoing objectives.

End Product:

A Regional/Island five-year trade and development plan with specific target goals and a means of achieving a positive trade balance.

Recommend comprehensive actions to correct the existing restrictions or conflicts.

Identify policy constraints to regional economic development, and devise a plan of action for removing impediments to development.

Benefit:

Increase of foreign exports and domestic trade to expand the Region/Island economies, reaching a positive balance of trade which contributes to the U. S. positive international trade balance.

Schedule: 18 months

Estimated Cost: \$475,000 plus 10 Federal managers

Constraints:

Communication between Federal and Island governments. Excessive Federal control.

Lead Agency: Pacific Basin Regional Council

Priority: 1

Pacific Basin Development Conference**Workshop 3, Panel A
TRADE****PROGRAM ELEMENT 2**

**Business Information and Assistance Centers in Guam,
Saipan, American Samoa, Kauai, Molokai, Maui, and Hawaii**

Problem Definition:

Small businesses, including the minority segment thereof, are subjected to competitive disadvantages because:

1. They do not have access to institutional sources of equity capital.
2. They are unfamiliar with the myriad of private and government financing programs, as management, technical and procurement assistance programs.
3. Their record keeping and accounting systems need much improvement.
4. They are not familiar with such management tools as planning and controlling their sales, assets and operations.
5. They are unfamiliar with export marketing strategies and technical requirements.
6. Small construction contractors are weak in costing, bidding and scheduling of their jobs due to an unavailability of sources of bid, performance and payment bonds.

There are several Federal agencies, including but not limited to, SBA, EDA, MBDA, FMHA, and CSA, and state and local government agencies which provide a variety of financing, management, technical and procurement assistance services to small business and minority small business; however, they are not doing the job that needs to be done.

Plan of Action:

1. In order to provide effective integrated business assistance services to small and minority businesses, business assistance centers shall be established in Guam, Saipan, American Samoa, Molokai, Maui, and Hawaii. Each center:
 - (a) Shall be entitled to receive technical staff support to assist constituents in preparing equity and/or debt financing proposals and in negotiating with private financial institutions, government or quasi-government agencies.
 - (b) Shall identify and define management, marketing, and technical problems and locate sources of knowledge, expertise, and assistance.
 - (c) Shall conduct management, production, marketing, international trade and government procurement seminars.
 - (d) Shall recruit business executives and active business executives and make available to their constituents, SCORE/ACE counselling services.

- (e) Shall assist construction contractors and service contractors to obtain surety bonds.
- 2. ITA shall assist the centers by:
 - (a) Utilizing Business Counseling Services of ITA's Pacific Basin Office - Hawaii for individualized technical assistance to current and prospective Island business firms.
 - (b) Conducting on-site business development seminars quarterly within each Pacific Basin Island Territory/State.
 - (c) Scheduling periodic visits of Trade Missions from off-Island (primarily USA) investors and purchasers.
 - (d) Establishing appropriate satellite offices of the ITA Pacific Basin Office at locations in the Island Territories.
 - (e) Identifying of products with adequate or potential supply for export (except agricultural).
 - (f) Identifying of foreign markets with analysis of distribution system, acceptability, costs, prices, trade barriers, etc. (except agricultural).
 - (g) Assisting in identification of marketing strategies most appropriate to products identified.
 - (h) Providing to attendees at the Conference complimentary copies of the Department of Commerce's Business America and a few hundred subscriptions blanks to that publication for the attendees to disseminate to U. S. businesses in their regions.
 - (i) Direct the Commercial and Economic Officers in U. S. Embassies and consulates, and domestic offices of U. S. Department of Commerce to identify potential investors in the Pacific Region, make wholesale and retail marketing contacts for Pacific Basin based companies, provide a full range of commercial intelligence services, and alert Pacific Basin entities to other opportunities.

End Product:

Highly visible support effort to Island business people toward economic growth; interrelated small business development program which assists with financing, management, procurement, and product marketing.

Benefit:

Expansion of exports and development of local industry.

Increased access to current and potential markets (inter-island and international) by Pacific Basin Island business firms and an opportunity for inter-island business development cooperation.

Development of a viable small business community to implement inter- and intra-island economic development.

Enhanced information about prospective investors, joint-venturers, trading partners, etc.

Possible identification of unsuspected economic opportunities.

Balance of payments benefits to the United States.

Schedule:

Start up of Centers -- as soon as possible.

Technical assistance, information, planning assistance to start when Centers are operational.

Estimated Cost: (Per annum for five years)

Joint funding by:

U.S. Department of Commerce	\$180,000
U.S. Small Business Administration	180,000
TOTAL Yearly funding	\$360,000

Constraints:

U.S. based companies may resent the extra effort being made on behalf of Territorial-based companies.

Lead Agency: U.S. Department of Commerce

Priority: 1

Pacific Basin Development Conference**Workshop 3, Panel A
· TRADE****PROGRAM ELEMENT 3****Regional Development Bank****Problem Definition:**

To provide venture capital to finance economically feasible development projects, and support activities in the area of management and technical assistance, because of limited access to all financial facilities such as World Bank, Asian Development Bank, etc.

Plan of Action:

1. Utilize the Presidential Task Force Report for feasibility verification.
2. Determine organizational set up necessary and compatible with political entities involved.
3. Investigate the current resources available to provide business the assistance it requires.
4. Develop funding activities.
5. Develop management and technical support facilities.

End Product:

An interrelated business development program which assists with financing, management, and economic development.

Benefit:

Development of a viable business community to implement intra- and inter-island economic development and to provide for availability of venture capital to finance development projects.

Schedule: Plan implementation -- 6 months.

Estimated Cost: Total \$285,000,000 (90%/10%) 75-50-35-25

Constraints:

Administrative policy towards Regional Bank. Staffing.

Lead Agency:

EDA, with technical assistance from Asian Development Bank (ADB), South Pacific Commission (SPC), World Bank, EX-IM Bank, etc.

Priority: 1

Pacific Basin Development Conference**Workshop 3, Panel A
TRADE****PROGRAM ELEMENT 4****Agricultural Development Program****Problem Definition:**

Development of agriculture from subsistence farming in many areas to an economically healthy agricultural industry by means of feasibility studies and demonstration projects.

Plan of Action:

1. Identify products which are grown or can be grown in the Pacific Basin.
2. Identify ways to preserve, process, and/or package such products.
3. Identify market demand for such products.
4. Conduct demonstration project if necessary to stimulate investment.
5. Make this information available to the Pacific Basin entities and the private sector.
6. Establish a Rural Development approach for the education of farmers in agricultural practice and economies, including: ways to increase yields and quality, identification and timing of market demand versus planting schedule and crop diversification, developing cooperative or coordinating marketing strategies, emphasizing the importance of adhering to contracts, education in packaging techniques, reduction in product loss caused by damage or perishability, accounting and record-keeping techniques, basic entrepreneurship, etc.
7. Recruit and train volunteers and staff personnel to administer the program, with a preference for persons who have grown up on farms and attended business colleges, and the like.
8. Implement the program in conjunction with appropriate Territorial and State agencies. Staff members would be co-located with regional counterparts and would supervise volunteers in the field.
9. Coordinate this program with a similar one in Fisheries.

End Product:

Identification of promising agricultural activities and appropriate techniques, and development of a system to educate farmers in applying these techniques.

Benefit:

1. Economic benefits of increased income, import substitution, export development, and diversification of the economic base.
2. Compatibility with Island way of life.

Schedule:

1. Identification of products, appropriate processing techniques, and market-ing analysis -- 1 year.
2. Development of information/education program -- 6 months.
3. Recruitment and training -- 6 months.

Estimated Cost:

\$500,000 per year for five years. Total for five-years is \$2,500,000.

Constraints:

1. Some countries which have already established technology (such as the Philippines and its banana chips) jealously guard their processing techniques.
2. Typhoons may occasionally destroy crops, thus idling processing plants.
3. Present ineligibility for crop insurance and other important USDA pro-grams.
4. Farmers may resist new techniques in favor of old ad hoc approaches.

Lead Agency:

USDA, EDA, VISTA, Department of Commerce.

Priority: 1

Pacific Basin Development Conference**Workshop 3, Panel A
TRADE****PROGRAM ELEMENT 5****Precious Coral Surveys of the Northern Marianas****Problem Definition:**

Precious coral resources in the Northern Marianas are not well known. Japanese and Taiwanese fishery data are not available regarding their harvest potentials and fishing areas.

Plan of Action:

1. To contract the use of a coral drag-net fishing vessel or submersible to survey the precious coral resources in the Northern Marianas.
2. To recruit a coral expert to determine the maximum sustainable yield of the precious corals (black, pink, golden, and bamboo corals).

End Product:

Information on the extent of the precious coral resources and their harvest potential and locality will be available.

Benefit:

Potential investors will have readily available information on the precious coral resources of the Northern Marianas for investment decisions. Fishery management plan could be developed for the conservation of the precious coral resources.

Schedule:

Charter a coral drag-net fishing vessel for exploring precious coral resources to determine the maximum sustainable yield of these resources for management purposes.

Estimated Cost: \$75,000**Constraints:**

Lack of funds for research purposes; unavailability of research vessel.

Lead Agency:

Department of Natural Resources (CNMI), NMFS, Department of Commerce and Labor (CNMI).

Priority: 1

Pacific Basin Development Conference**Workshop 3, Panel A
TRADE****PROGRAM ELEMENT 6****Establishment of a Piggery/Abattoir****Problem Definition:**

To develop a successful piggery/abattoir project tailored to the local potential for this type of operation in American Samoa.

Plan of Action:

1. Assess the feasibility of pork production on-island.
2. Set up a model piggery operation for adoption by local farmers.
3. Assess the feasibility of an abattoir.
4. Locate funding to finance a piggery/abattoir operation.

End Product:

1. Development of a piggery operation.
2. Establishment of support facilities for piggery ventures.

Benefit:

Substitution of imported pork products, modeling for subsistence pork production, and the creation of awareness that the potential exists in American Samoa for a venture in piggery/abattoir operation.

Schedule:

1. Study – four months.
2. Implementation – six to twelve months

Estimated Cost:

1. Study – \$30,000
2. Implementation – \$500,000

Constraints:

1. USDA regulations geared to the U. S. economy minimize the desire to pursue these projects in the Territories.
2. Limited technical personnel handicap the development of these projects.
3. Limited local financial assistance has been geared toward subsistence Piggery operations.
4. The necessity for this type of business venture has not been explained adequately to the local potential entrepreneurs.

Lead Agency: USDA/Department of Commerce (EDA)

Priority: 1

Pacific Basin Development Conference**Workshop 3, Panel A
TRADE****PROGRAM ELEMENT 7****Federal Financing for Marketing Studies and Promotion****Problem Definition:**

To determine the market potential of local products and potential products to ease the trade deficit of the individual Pacific Islands and the Pacific Basin Region.

Plan of Action:

The Pacific Basin Development Council will transmit from time to time requests for funding of marketing studies associated with import/export products and "substitutes" products.

The following areas have been identified as initial product potential for the islands:

1. Export of local fish products other than tuna.
2. Aquaculture production for domestic, Japanese, and international markets to include, but not be limited to prawns, shrimps, clams, sea weeds, ocean reef products, etc.
3. Marketability of tropical island natural resources that include, but are not limited to, tangan-tangan, coconut products, lava products, forestry products, coastal products, florals, etc.

End Product:

Various market studies to provide direction to "emerging nation" economics.

Benefit:

Expansion of exports, production, and local industry.

Schedule:

Varies on a case by case basis.

Estimated Cost:

\$1.5 million per year for five years.

Constraints:

Available funding.

Lead Agency: Pacific Basin Development Council

Priority: 2

Pacific Basin Development Conference**Workshop 3, Panel A
TRADE****PROGRAM ELEMENT 8****Broiler and Fryer Chicken Production****Problem Definition:**

To provide initial outlay for facilities, equipment, and supplies to begin production.

Plan of Action:

1. Site preparation and construction of facilities will begin as soon as funds are available.
2. Procurement of equipment, chickens, and feed supply to begin operations.
3. Implement internal marketing strategy for the sale of the finished product.
4. Project evaluation.

End Product:

Establishment of a local chicken farm producing broilers, fryers, and other associated products.

Benefit:

Substitution of more than three million pounds of imported poultry products and the creation of additional new jobs.

Schedule:

1. Construction and procurement – six months
2. Sale of first batch – six months

Estimated Cost: \$300,000**Constraints:**

1. The lack of a local feed mill may make this project economically unfeasible.
2. The absence of local expertise in this field could be a roadblock to success.
3. Because of the high risks involved in this type of venture, it has been difficult to obtain capital from the local financial institutions to initiate this project.

Lead Agency: EDA**Priority:** 2

Pacific Basin Development Conference**Workshop 3, Panel A
TRADE****PROGRAM ELEMENT 9****Tangan-Tangan Utilization****Problem Definition:**

Tangan-tangan (Halekoa) is both a pest and a savior. It stabilizes the soil, fixes nitrogen, has a high energy value, can be used for animal feed or commercial applications. At the same time, it hides scenic resources, clutters land which might otherwise be considered for agricultural or other uses, prevents growth of more desirable species, etc.

Plan of Action:

1. Conduct a comparative economic study of various potential uses, including biomass conversion, direct use as fuel, charcoal and/or chipboard industry development, use as animal feed, etc.
2. Consideration should be given to: a) permanent clearcutting of tangan-tangan stands, so that the land could be put to other use; b) "forestry management" for the specific purpose of harvesting to replenish the soil.

End Product:

Charcoal, animal feed industry.

Benefit:

Governments and private individuals would be able to identify highest economic uses for tangan-tangan and begin making more rational land use decisions for development of tangan-tangan covered areas.

Schedule: Six to nine months.

Estimated Cost: Total \$1.55 million.

Constraints:

Inertia against any change in the physical status quo, which has been taken as a given for so many years.

Lead Agency: Department of Energy/USDA

Priority: 2

Pacific Basin Development Conference**Workshop 3, Panel A
TRADE****PROGRAM ELEMENT 10****Fish Scrap Fertilizer Development****Problem Definition:**

Initiate an investigation into the possibility of setting up regional production facilities to process fish scrap of any kind to produce a patented and highly effective fish oil fertilizer for distribution to commercial agricultural enterprises in the U. S. Pacific Islands and Trust Territories as well as in major countries in the Orient.

Plan of Action:

1. Survey available sources of fish scrap in sufficient quantity to justify the establishment of fertilizer production facilities. Samoa is a distinct possibility, with a very large existing tuna canning industry. Guam may be another possibility.
2. If source of fish scrap is found and available, then an investigation into the use of Guam as a central warehouse/distribution point should be explored where smaller, inter-island shipments could originate or where larger parcels or multi-container loads could be picked up for shipment to Manila, Taiwan, and other major Orient destinations.
3. Develop all necessary input relative to trade route sailing authorizations which may be required as well as develop a practical, saleable approach to pricing of the ocean freight of this product.
4. Conduct survey in target area to develop input on market potential; product pricing; packaging; sales outlets (i.e. direct to consumer vs. exclusive distributor).

End Product: Feasibility Study**Benefit: Improving agricultural yield.****Schedule: 12 months****Estimated Cost: \$150,000****Constraints:**

Legal, EPA, Coast Guard restrictions.

Lead Agency: Department of Agriculture**Priority: 2**

Pacific Basin Development Conference**Workshop 3, Panel A
TRADE****PROGRAM ELEMENT 11****Foreign Trade Zone #9
Hawaii and Regional Trade Zones****Problem Definition:**

To make conferees aware that Hawaii's Foreign-Trade Zone No. 9 offers many services that could promote and facilitate international commerce for Pacific Basin countries, and to establish trade zones and/or industrial parks in the territories as applicable to the various islands.

Plan of Action:

To offer the conference planners the services of the FTZ staff who would participate in the conference by way of presentation. Such a presentation could include audio-visual aids, distribution of explanatory brochures, and a lecture to include time for questions and answers. To provide studies as necessary in the individual islands to determine the feasibility of FTZ's and industrial parks.

End Product:

To provide increased economic growth through expansion of services and facilities and new products. To make the conferees aware of the advantages of using FTZ's and industrial parks and apply such awareness of their own economy when planning for increased trade. To encourage cottage type industries and manufacturing in the islands.

Benefit:

The benefits would include the increased ability to reach international markets for exported products while decreasing the overall costs of distribution. Provide an opportunity for local employment, improvement in balance of payment and the potential for foreign investment capital.

Schedule:

The Hawaii FTZ has such a presentation ready for review at any time. Therefore, studies should begin in Guam, the Commonwealth of the Northern Mariana Islands, and American Samoa immediately.

Estimated Cost:

\$150,000 (\$50,000 in each of the three Island groups listed). No funds are required for Hawaii.

Constraints: Legal restriction.**Lead Agency: Commerce (ITA)****Priority: 3**

REPORT OF THE TOURISM PANEL

Workshop 3, Panel B

GOALS & OBJECTIVES

The general goal of the Panel, agreed upon after discussion by the Panel participants, was to cooperatively create a five-year Regional visitor industry development plan that considers the individual differences and attractions of each Island and its desires and resources, using the existing visitor industry base. The more specific objectives of the Island representatives was to undertake regional tourism marketing research, education, and training efforts, and other activities that will further develop and enhance a visitor industry which provides employment opportunities for local residents consistent with the social, cultural and physical needs and aspirations of the American Pacific Islanders.

ISSUES

The issues presented to the Panel participants for discussion and consideration focused on the identification of tourism growth opportunities, obstacles to growth and needs for increasing the existing visitor industry -- Region-wide . In summary, the identified opportunities were to utilize the existing visitor industry, the attractive climate and unique tropical setting as a platform to launch a Region-wide and Island tourism growth plan which sensitively considers the delicate ecological and cultural systems of the Region.

The constraints to Regional and/or Island visitor industry growth, which the Panel discussed and considered were limited land mass (in some cases beach-frontage), inadequate scheduled air service, local limited labor resources, aging and/or inadequate physical plants and, in some cases, the lack of local resident acceptance of development of a tourist plant. The identified needs for increased tourism development were 1) a strategy or plan for cooperative Regional tourism development with consideration for each Island, 2) funding for tourism promotion and improved physical plants and the need to improve air transit service via revision and/or changes in Federal laws/regulations. Also, the Panel discussed the need for

special efforts toward encouraging citizen support for tourism development, primarily by establishing training programs to provide employment opportunities to create local citizen economic self-sufficiency.

PARTICIPATION

The Tourism Panel contained 36 participants and they represented a broad cross-section of the Conference attendees including the Island and Federal governments (22), business and industry (10), academia and public interest groups (4). The Acting Assistant Secretary for Tourism of the Department of Commerce, (U.S. Travel Service) who was Vicechair of the Tourism Panel, attended all sessions and a supporting staff member from Payne-Maxie Consultants was present to assist the Panel Chairperson during the course of deliberations. A list of Panel participants and their organizational affiliations is shown on the following pages.

TOURISM PANEL PARTICIPANTS

Workshop Vicechair:

Jeanne Westphal
Acting Assistant Secretary for Tourism

U.S. Travel Service
Department of Commerce

Panel Chair:

Ron Pritchard
President

Pritchard Ground Service
American Samoa

Participants:

Stanley Baptiste	County Council of Kauai, Hawaii
Tony Brown	Rainmaker Hotel, American Samoa
Tony Bruggemanns	Continental Hotels, Los Angeles
Robert V. Clayton	U.S. Forest Service
William H. Cravens	Polynesian Cultural Center
Jack J. Ellis	Pan American Airlines
Peter Fithian	Greeters of Hawaii, Ltd.
Amos Galea'i	Samoan Tourism Travel Agency
Chuck Gee	University of Hawaii at Manoa
Andrew Gerakas	State of Hawaii
J. M. Guerrero	Marianas Visitors Bureau
John Holmstrom	University of Hawaii
Iosefo K. Iuli	Legislature, American Samoa
Paul W. Kendall	Pan American Airlines
Joseph Kuroda	Hawaii State Senate
John K. Lee	Guam Visitors Bureau
Olo Um. Letuli	American Samoa
Faasuka S. Lutu	Legislature, American Samoa
Tuiafono Matautia	Legislature, American Samoa
Powell McDaniel	U.S. Department of Commerce, San Francisco
Letalu M. Moliga	Legislature, American Samoa
Maaka Nua	American Samoa Office of Tourism
Michael Paiewonsky	Senate, Virgin Islands
Enosa Pili	American Samoa Arts Council
Pamela Pryor	East-West Center, Hawaii
'Pete' Robinson	Payne-Maxie Consultants, Berkeley
Fritz Schmitz	U.S. Travel Service, Tokyo

Joyce A. Schwartz	Visitor Industry Education Council, Hawaii
John Simpson	Hawaii Visitors Bureau
Fofo Sunia	American Samoan Delegate to Washington, D.C.
H. "Tak" Takeda	Japan Airlines, Guam
Vicente (Ben) T-Attao	Legislature, Northern Marianas Islands
Moananu Va	Legislature, American Samoa
Leon Yoshida	Hyatt Kuilima Hotel
Peter de Zela	Office of Senate President, Hawaii

ORGANIZATION & OPERATIONS

The Tourism Panel, under the leadership of Chairman Ron Pritchard, used the background information provided in the Conference Workbook to discuss and consider the major issues and then addressed the 16 suggested program elements.

These elements were thoroughly reviewed, discussed, and revised, as necessary, by the Panel. Those careful deliberations resulted in seven final program elements to be considered for priority ranking and the table below details the Panel's additions, deletions, combinations and results.

TOURISM PANEL 3 - B **Program Element Inventory**

Suggested Program Elements	16
Additions and/or Transfers In	1
Deletions and/or Transfers Out	<u>10</u>
Final Program Elements	7

The seven final program elements were categorized by basic and major programs and then prioritized by the Panel as-a-whole, and estimated funding levels were established for each program element.

PROGRAM RECOMMENDATIONS

The Panel recommended three program elements in Priority 1 and four in Priority 2 - no program elements were designated as Priority 3. Two of the program elements designated as Priority 2 (Improved Transportation of Visitors and Easing Entry and Attracting Visitors) contain no cost estimates because the objectives of those programs can be attained by revision and/or changes to existing Federal regulations.

The designated Lead Agencies are currently funded and are working to solve/resolve the problems which the program elements identify. The table on the following page details the program element, its priority ranking, its category, and five-year estimated costs.

TOURISM PANEL 3 - B
FIVE-YEAR ESTIMATED PROGRAM COSTS
($\$000$)

<u>PROGRAM ELEMENT</u>	<u>BASIC</u>	<u>MAJOR</u>	<u>TOTAL COST</u>
Priority 1 (Immediate Need)			
1. Regional/Island Tourism Development Plan	1,000	-0-	1,000
2. Regional/Island Tourism Marketing	5,750	-0-	5,750
3. Tourist Services Manpower Development Program	550	-0-	550
Sub totals	\$ 7,300	-0-	7,300
Priority 2 (Long-Range)			
4. Visitor Support Facilities	-0-	69,140	69,140
5. Tourism/Trade Resource Center	450	-0-	450
6. Improved Transportation of Visitors	-0-	-0-	-0-
7. Easing Entry and Attracting Visitors	-0-	-0-	-0-
Sub totals	\$ 450	\$69,140	\$69,590
Priority 3 (Back-Up)			
No Designations	-0-	-0-	-0-
GRAND TOTALS	\$ 7,750	\$69,140	\$76,890

OVERALL RECOMMENDATIONS

In addition to the program element recommendations, submitted by the Tourism Panel Participants, they also offered the following overall recommendations to the Conference attendees:

1. Critical consideration be given to the needs, aspirations and desires of each island as a Regional Tourist Development Plan is established.
2. Feasibility studies for visitor support facilities be conducted in a manner that strongly relates to each island's resources (financial and other) taking into consideration the economic impact that increased tourism makes to the local economy.
3. A matching fund be established to assist in the promotion of the Region in advertising, development of promotional material and other methods of attracting visitors to the Region.
4. That the private sector be involved in the development of the marketing program and that a mechanism be established for joint cooperative promotions.
5. For manpower development, the private sector, especially non-profit organizations, should be encouraged to assist in providing funding for the training of island personnel for the tourism industry.

Pacific Basin Development Conference**Workshop 3, Panel B
TOURISM****PROGRAM ELEMENT 1****Pacific Region/Island Tourism Development Study****Problem Definition:**

Tourism, existing and potential, presents an ideal opportunity for economic growth and assists in the attainment of a positive trade balance. The Region is blessed by climate and a setting that is attractive to visitors. An existing Tourist industry is present on several of the Islands and they possess the experience and infrastructure for future expansion.

It is necessary to develop a public and private sector regional tourism plan that integrates the attractions, differences, and future growth potential for each Island group. Special considerations must be given to natural, cultural, and scenic attractions of each Island.

Priority should be given to preserving the social and cultural heritage and environmental conditions of the Island while gaining the cooperation of the Islands' residents in making the visitors' experience memorable, enjoyable and pleasant.

Plan of Action:

1. Take an inventory of the quantity and quality of tourism plant and facilities in the Islands, specifically focusing on the following: accommodations; recreation facilities; cultural attractions; potable water and sewage disposal; food and beverage; ground, air, and sea transportation; reception services (including guides, buses, etc.); and training for tourism industry personnel. Identify additional facilities needed in each destination.
2. Establish a Task Force (with representatives from each Island group, both public and private sectors) to create, coordinate, and report on the planning process.
3. Rank issues and programs essential for tourism growth in each destination.
4. Plan and schedule tourism development, i.e.; marketing, facilities expansion, manpower training, special attractions, etc.
5. Design an educational program for schools and media stressing the importance of tourism to the economy and well-being of residents.
6. Implement the program.

End Product:

An integrated Regional/Island plan that is consistent with the cultural, social desires and the resources of the Region.

Benefit:

A sound basis for tourist growth, increased employment opportunity, and a means of creating a positive trade balance.

Schedule:

1. Inventory and survey – 6 to 12 months.
2. Planning strategy – 9 months.
3. Plan implementation

Estimated Cost:

Survey and planning strategy, - \$1 million.

Constraints:

Funding

Lead Agency:

Department of Commerce, Department of the Interior and other Federal and local agencies that impact on tourism.

Priority: 1

Pacific Basin Development Conference**Workshop 3, Panel B
TOURISM****PROGRAM ELEMENT 2****Regional/Island Tourism Marketing****Problem Definition:**

To significantly increase the tourism receipts available from international and domestic visitors through a well planned and aggressive five-year regional marketing program.

Plan of Action:

1. Take an inventory of available travel market research that impacts upon international and domestic tourism marketing for Hawaii and the Pacific Basin U. S. Trust Territories (i.e., USTS, Pacific Area Travel Association, etc.)
2. Determine the weaknesses and gaps in the inventory and conduct additional travel market research as needed.
3. Develop a regional marketing strategy based on items 1 and 2 above and select target foreign and/or U. S. markets that can benefit the region. This activity is to be carried out in liaison with USTS Regional Offices when applicable.
4. Develop complete five-year marketing plans for the region. Such marketing plans to include but not be limited to the following: advertising, literature, public relations, trade seminars, familiarization tours (CAB supported and others), and tour packaging.
5. Implement the completed marketing plans, reviewing progress and adjusting goals annually.

End Product:

An implemented five-year regional tourism marketing plan that provides a firm foundation on which to further expand the tourism marketing effort.

Benefit:

Improve each Territory's and Hawaii's economy by increasing their number of visitors taking full advantage of the rapidly increasing international travel market; optimum utilization of the visitor plant as a "renewable" export product; mutually beneficial cooperative promotions among the U. S. Pacific Basin Island area.

Schedule:

1. Inventory and research – first year
2. Develop marketing plan and secure private sector funding commitments – second year
3. Implement marketing plan – 3 to 5 years

Estimated Cost:

1. Research and marketing plan development – \$500,000
2. Implementation of marketing plan – over 4 years \$5.25 million or over 5 years \$5.75 million (over three years, supplemented by private sector funding).

Constraints:

1. The available visitor plant and transportation capabilities will vary greatly among the Islands. Marketing programs must take such constraints into consideration.
2. World economic conditions will greatly impact upon the potential tourism growth in the Islands.
3. The competitive foreign destination marketing efforts and level of private sector funding support for the Pacific Basin U. S. Islands will directly impact upon the potential success of the program.

Lead Agency:

Department of Commerce and other Federal and local agencies that impact on tourism.

Priority: 1

Pacific Basin Development Conference**Workshop 3, Panel B
TOURISM****PROGRAM ELEMENT 3****Tourist Services Manpower Development Program****Problem Definition:**

1. To develop and operate Regional non-degree educational programs for managers, management trainees, and other skilled personnel engaged in tourism in the American Pacific Islands.
2. To investigate and assist in developing mutual aid pacts for educating men and women interested in University level travel industry management degree programs in areas where such programs are not available.

Plan of Action:

1. Develop a series of special training programs using tested educational techniques. These techniques would consist of:
 - a. Study tour programs of existing facilities in the tourism industry.
 - b. Case studies of marketing and manpower problems specifically facing the Pacific Islands Tourism industry.
 - c. Lectures.
 - d. Workshops.
 - e. Team projects.
2. Articulate higher education needs in each API area and develop a cooperative aid plan between appropriate agencies or institutions.

End Product:

An increased pool of qualified local tourism personnel in each American Pacific Island community for major sectors of the visitor industry, principally hotel and restaurants, tour and travel operations, retailing, and government offices.

Benefit:

Increased effectiveness and professionalism at all levels on the part of those who provide tourism services and manage tourism resources.

Schedule:

1. Identification of specific educational and training needs of each American Pacific Island community - 6 months
2. Design experimental training program modules of varying lengths and intensity - 6 months
3. Implementation - during 2nd year

Estimated Cost:

An estimated amount of \$150,000 - Year 1 would be needed to develop the program. Cost factors include case development, professional personnel, scholarships, transportation, educational materials, etc.; \$550,000 over 5 years, including 4 years of program maintenance.

Constraints:

1. Adequacy of training facilities and qualified trainers will vary widely within the API region.
2. Priority needs of each area for training will vary greatly in terms of emphasis on operating level, hands-on skills versus advanced management knowledge.
3. Ability of each area to sustain training program on self-supporting basis after initial funding.

Lead Agency:

DOI/DOL/DOC with support from the School of Travel Industry Management, University of Hawaii, and the University of Guam, Department of Travel Industry Management.

Priority: 1

Pacific Basin Development Conference**Workshop 3, Panel B
TOURISM****PROGRAM ELEMENT 4****Visitor Support Facilities****Problem Definition:**

Prepare a means of funding visitor support facilities including hotels, recreation facilities and convention sites to attract visitors.

Plan of Action:

1. Review available surveys to determine size, type and locations of these facilities.
2. Locate funding sources for these facilities.

End Product:

1. Hotels
2. Recreational Facilities
3. New or improved convention sites.

Benefit:

1. Increase local employment and business opportunities.
2. Use of these facilities by local population enhancing social interaction.
3. Increase number of visitors and length of stay resulting in increased visitor expenditures.

Schedule:

1. Review surveys -- 6 months
2. Locate funding -- within 1 year
3. Implementation -- 2 to 5 years

Estimated Cost:

See funding schedule below.

Constraints:

1. Implementation of these facilities will depend largely on the availability of funds.
2. Availability of sites.
3. Availability of labor for construction.

Lead Agency:

EDA / USTS / HUD / OCZM / NOAA

Priority: 2

	Funding Schedule In Dollars				
	Year #1	Year #2	Year #3	Year #4	Year #5
1. Hotels					
a. Am. Samoa	4,000,000	4,000,000	0	0	0
b. Guam	4,000,000	10,000,000	2,000,000	2,000,000	2,000,000
2. Recreation Facilities					
a. Am. Samoa	715,000	0	0	0	0
b. Guam	5,000,000	10,000,000	5,000,000	5,000,000	5,000,000
c. Northern Marianas	75,000	0	0	0	0
3. Convention Sites					
a. Am. Samoa	250,000	0	0	0	0
b. Northern Marianas	1,000,000	9,000,000	0	0	0
c. Hawaii (A&E, other studies)	---	---	---	---	---
Grand Total					\$69,140,000

Pacific Basin Development Conference**Workshop 3, Panel B
TOURISM****PROGRAM ELEMENT 5****Pacific Region/Island Tourism Development Study****The American Pacific Island Tourism Resource Center****Problem Definition:**

The establishment of a regional resource center is needed to provide greater access to the up-to-date information and materials that tourism trainers, educators, administrators, planners and managers will require to guide tourism's future development in the Pacific Islands.

Plan of Action:

1. Conduct an inventory of existing collections and resources pertaining to the growth and development of tourism in the Pacific Islands.
2. Conduct a feasibility study to identify and assess:
 - a. regional information needs;
 - b. the resources required to meet those needs and their availability; and
 - c. the most suitable collection/distribution methodology (off-line print, peacesat, telephone hook-up, real-time, etc.)
3. Establish and staff the resource center.
4. Collect and assemble all available information resources.

End Product:

An American Pacific Islands Travel Center for the interaction and pooling of tourism resources in one centralized center, collecting and distributing the necessary data to individual Pacific Island Offices to service their increasing regional tourism information and educational needs.

Benefit:

There is a recognized need for a resource center to identify and coordinate information which can help Pacific Island tourism administrators, planners, educators, trainers, managers and entrepreneurs meet the developmental requirements of an expanding travel industry. The resource center would serve as an information clearinghouse, thereby, making available the technical information and expertise needed for sound decision-making. At present, a large amount of the time and valuable resources are wasted by duplicating studies, etc., already completed elsewhere. The resource center would reduce/eliminate this type of duplication. Specialized information services are available but none include references on tourism (example: Business International's Associate Client Program, Information or Demand, International Management Development Institute, etc.)

Schedule:

First Year

1. Inventory of existing collections/data
, Conduct feasibility study
2. Collection/Assembling and Classifying Information

Second Year

1. Develop channels for receiving and distributing information for the API region.
2. Implementation of plan and development API Tourism Resource Center Operations.

Estimated Cost:

First Year	\$50,000
Second Year	100,000
Five Years	\$450,000

Constraints:

1. Difficulty in defining the parameter of information pertaining to American Pacific Islands Region.
2. Obtaining private/unpublished studies and resources.
3. The current level of sophistication of communication technology (both software and hardware).

Lead Agency:

Department of Commerce assisted by ITA/USTS, School of Travel Industry Management, University of Hawaii at Manoa and the Department of Planning and Economic Development, State of Hawaii.

Priority: 2

Pacific Basin Development Conference**Workshop 3, Panel 3B
TOURISM****PROGRAM ELEMENT 6****Improved Transportation of Tourists****Problem Definition:**

To improve and expand the air and water transportation facilities for moving increased numbers of tourists to, from, and among the islands of Hawaii and the Pacific Basin U. S. Trust Territories.

Plan of Action:

1. Contribute the following inputs to relevant parts of Workshop 2 Action Plans so they are fully taken into account in determining needs for air and sea transportation and supporting port and communication facilities:
 - a. Projected tourism development figures identified in the marketing research under Tourism Program Element 2.
 - b. Visitor profiles, such as income levels and country of origin, which may affect types and classes of transportation, including intra- and inter-island ships for cruises and transport.
2. Coordinate with the Maritime Administration and other participating agencies to ensure that:
 - a. The recommendations for the development and maintenance of an adequate transportation system for the Islands reflect expanded tourism needs.
 - b. The vessel trends analysis adequately covers tourism potentials.
 - c. The proposed coordinated regional inter-island transportation system is supportive of tourism needs.
 - d. The recommendations for airport, seaport, and communications development take into account the people movement problems of the tourist industry.
3. Ensure that the Department of State, Civil Aeronautics Board, and other Federal agencies not participating in the Conference become working partners in expanding international, inter- and intra-island air service to meet the expanded tourism needs.

End Product:

An air and sea, international and inter-island transportation system that effectively supports the needs of an expanding tourism industry throughout the Islands.

Benefit:

Development of a more comprehensive and effective transportation system servicing the Islands not only will help sustain the tourism industry, but the system itself will be in significant ways sustained by tourist travel to the benefit of islanders employed

in airports and seaports and by airline and maritime companies, and enterprises servicing them.

Schedule:

Will depend upon the timing of the Action Plans of the Maritime Administration and other participating and cooperating agencies. USTS should seek to influence this timing to coincide with the schedule developed for Tourism Program Element 2.

Estimated Cost:

The studies and other actions called for in the Transportation and Communications Workshop 2 will presumably be funded by the Maritime Administration and other lead agencies.

Constraints:

1. Adequate and effective contribution and coordination will not be easy to attain.
2. Other constraints, that will be the responsibility of the participating lead agencies indicated above, will certainly include the full range of environmental impacts and their accomodation.
3. International air and sea services are subject to international agreements.

Lead Agency:

USTS – for coordination with Transportation, Ports and Telecommunications Lead Agencies and other cooperating Federal agencies.

Priority: 2

Pacific Basin Development Conference**Workshop 3, Panel B
TOURISM****PROGRAM ELEMENT 7****Easing Entry and Attracting Foreign Visitors****Problem Definition:**

Present Federal regulations and policies make it difficult for foreign visitors to enter U.S. Territories/States for tourist purposes. In addition, lack of an adequate number of customs/immigration staff to accomodate large numbers of tourists is another deterrent.

Plan of Action:

1. Study the inspection/entry facilities and procedures at ports of entry of the various islands and determine if they are inadequate and pose significant deterrents to foreign visitors. (A check is in order of visa issuance facilities and procedures in American Consulates in countries of likely foreign visitors to the Islands, e.g. Japan, Korea, Australia, New Zealand, Hong Kong, Taiwan, etc.)
2. Propose remedies where there are significant inadequacies and deterrents.

End Product:

Adequate facilities and streamlined procedures for quickly moving increasing numbers of visitors through customs and passport/visa checks, plus attractive Free Port shopping facilities that will entertain them and encourage them to spend more money in the Islands.

Benefit:

An additional attraction to visit the Islands for Americans and foreigners alike.

Schedule:

Underway.

Estimated Cost: 0**Constraints:**

1. U. S. Customs and Immigration laws, regulations, and practices, plus budgetary limits on staff and facilities.
2. U. S. policy toward establishment of Free Ports.

Lead Agency:

U.S. Customs, Immigration Service, and Department of State in consultation with Department of Commerce.

Priority: 2

REPORT OF THE ENERGY PANEL

Workshop 4, Panel A

GOAL & OBJECTIVES

The goal of the Energy Panel was to cooperatively create a five-year regional plan to assure the supply of affordable energy and work toward less external dependence on petroleum. The more specific objective was to meet the imported petroleum needs of the American Pacific Islands and increase self-sufficiency through conservation of petroleum and development of alternative energy resources. The American Pacific Islands wish to ensure a minimum supply level until 1990 of 90,000 barrels per day, and to reduce import levels by 70% of those currently being experienced by 1990.

ISSUES

The major issue regarding energy and the Pacific Basin Region is the current near total dependence of the Island groups on imported petroleum products, leading to a regional balance of payment deficit of over \$2.0 billion annually. The Island Governors listed energy as the number one regional problem for which timely solutions must be found.

Unlike the U.S. Mainland, the Pacific Basin Islands possess no developed oil deposits, oil shale, natural gas, nuclear energy or significant hydroelectricity. To compound the problem, the Region's major industry -- tourism -- is heavily dependent on an affordable and adequate supply of liquid petroleum fuel for transportation. However, looking to the future, the Region is blessed with a variety and abundance of yet undeveloped alternatives to traditional fossil-fuel energy sources. These alternative sources are renewable and include direct solar radiation, wind and tide, biomass, wave and ocean-current and geothermal from the Island volcanoes. In fact, the Pacific Region could become the focal point for research and development of alternative/renewable energy sources which could be transferred to an energy-hungry industrialized U.S. mainland.

The State of Hawaii, primarily on its own, is leading this research/development effort by having a number of varied renewable energy projects underway, including OTEC, wind and biomass, and providing strong encouragement to a private industry-sponsored geothermal demonstration project. Hawaii is, as well, providing regulations and tax incentives encouraging the installation and use of solar energy services. The other Island Governments are seeking similar renewable energy projects and are involved in related policy study for the future benefit of their Islands and peoples.

The program elements, suggested for the Panel's consideration, reflect the situation set forth above and the need for creating a Regional/Island energy plan with a quantitative goal (50%) to be achieved via local alternative/renewable energy sources in a specific time frame (1990). The excellent solar energy potential of the Region is immediately recognized and seven programs address needed development in that area. Two program elements are concerned with geothermal potential and five programs call attention to the untapped possibilities of ocean energy; OTEC and wave/current demonstration projects. Conservation, a short to mid-term requirement, is taken into account by three program elements and the Island Governments' concern regarding short to mid-term supplies of petroleum is addressed by two suggested programs.

PARTICIPANTS

The Energy Panel was of significant interest to the Conference attendees and 32 persons participated in these singularly important sessions. Twelve business and industry representatives made up the largest group contingent, followed by Island government representatives (9), Federal government representatives (8), and three representatives each from academia and public interest groups. The Manager of the San Francisco Operations Office of the U.S. Department of Energy acted as Panel resource person, and the Chairman was assisted by a senior professional from A.T. Kearney, Inc.

A list of Panel participants and their organizations is shown on the following page.

ENERGY PANEL PARTICIPANTS

Workshop Vicechair:

Phillip Eisenberg
Chairman

Hydronautics, Inc.
Laurel, MO

Panel Chair:

Joy Lather

Guam Energy Office
Agama, Guam

Participants:

Bill Arntz	DOE, San Francisco
Don Austin	Austin, Tsutsumi & Assoc.
Paul I. Banks	Hawaiian Dredging & Construction Co.
George Bensky	A. T. Kearney, Inc., San Francisco
Jack Blasy	DOE, San Francisco
Howard Bowie	ChinaSeaco, Northern Marianas
George L. Chan	Environment & Energy Office, DC
Bob Clayton	USDA Forest Service, HI
Brian Coffay	Westinghouse, OTEC Project Philadelphia, PA
David Craddick	Geothermal Expl. & Dev. Corp., HI
Doug Craddick	Geothermal Expl. & Dev. Corp., HI
Governor Leo A. Falcam	Eastern Caroline Islands
Bob Funesti	Pacific Affairs Subcommittee House of Representative
Wm. Galea'i	Government of American Samoa
Richard Gerson	Department of Energy, Washington, D.C.
Eugene M. Grabbe	DPED, HI
James Harpstrie	University of Hawaii
Alexis Jackson	Department of the Interior, Washington, DC
George Keller	Geothermal Explor. & Dev. Corp., HI
Jack Keppeler	County of Hawaii

Matt T. Le'i	Office of the Governor, American Samoa
Carol McCord	Center for Citizen Education, HI
Jim Moreau	Hawaiian Dredging & Construction Co.
Myron Nordquist	Ocean Energy Council, Washington, D.C.
Greg S. Perez	Guam Growth Council
Eiler Ravnholz	Office of Sen. Inouye
Nathan Sonenshein	Global Marine Development, Inc. Newport Beach, CA
Col. Sharm Stevenson, USAF	Honolulu Federal Executive Board
Donald C. Williams	Guam Power Authority
Roy T. Yee	KEMS, Inc., HI
Tak Yoshihara	Hawaii Site Representative, Department of Energy

ORGANIZATION & OPERATIONS

Chairman Lather convened the Panel and requested that each person review the Panel materials contained in the Workbook. During the ensuing discussions, the Panel established a goal and objectives for their deliberations of the suggested program elements.

The results of those deliberations and discussions of program elements to formulate the five-year Regional/Island energy plan is shown in the table below.

ENERGY PANEL 4-A **Program Element Inventory**

Suggested Program Elements	18
Additions and/or Transfers In	17
Deletions, Combinations and/or Transfers Out	<u>16</u>
Final Program Elements	19

Most of the final program elements contained aspects of both Basic Programs (research, feasibility and studies) and Major Programs (construction of industrial complexes, demonstration projects, etc.), and careful attention was given to estimating program costs in each of these categories.

The nineteen final total elements were ranked as follows:

<u># of PE's</u>	<u>RANKING</u>
9	Priority 1 (Immediate Need)
4	Priority 1 (Long-Range)
6	Priority 3 (Back-Up)

PROGRAM RECOMMENDATIONS

Demonstration projects for alternate energy sources dominated in the Panel's program recommendations: five of the nine Priority 1 rated programs; all four of Priority 2 rated programs; and three of six programs rated Priority 3. Interestingly, the Panel recommended two Regional mechanisms to be primarily energy concerned: an Annual Symposium to exchange energy information regarding potential Island application (Priority 1) and a Pacific Energy Council as an institutional structure in which Regional energy programs must function.

The tables on the following pages detail each program element, priority, and five-year estimated costs.

ENERGY PANEL 4-A
FIVE-YEAR ESTIMATED PROGRAM COSTS
 (\$000)

<u>PROGRAM ELEMENT</u>	<u>BASIC</u>	<u>MAJOR</u>	<u>TOTAL COST</u>
Priority 1 (Immediate Need)			
1. Regional/Island Energy Resource Assessment & Plan	500	-0-	500
2. Annual Energy Technology Symposium	500	-0-	500
3. Solar Cooling & Water Heating Demonstration Project	-0-	2,500	2,500
4. Energy Conservation Campaign & Energy House Demonstration	600	400	1,000
5. Geothermal Energy Study & Demonstration Project	500	7,500	8,000
6. OTEC Study & Demonstration Project	300	136,000	136,300
7. InterIsland Submarine Power Cables	-0-	11,000	11,000
8. Am. Samoa Co-generation Six MW Plant	-0-	6,000	6,000
9. Island Fuel Storage Reserve Facilities	-0-	2,500	2,500
Sub-Totals	\$ 2,400	\$165,900	\$168,300

ENERGY PANEL 4-A
FIVE-YEAR ESTIMATED PROGRAM COSTS
(*\$000*)

<u>PROGRAM ELEMENT</u>	<u>BASIC</u>	<u>MAJOR</u>	<u>TOTAL COST</u>
Priority 2 (Long-Range)			
10. OTEC/Aquaculture Study & Demonstration Projects	100	11,000	11,100
11. Agriculture/Biomass Energy Study & Demo. Project	50	250	300
12. Wind Turbine Generator Demonstration Projects	-0-	12,000	12,000
13. Combined Electric Power/Desalination Plant Survey/Study & Demonstration	150	23,850	24,000
Sub-Totals	\$ 300	\$47,100	\$47,400
Priority 3 (Back-Up)			
14. Coal/Natural Gas Conversion Study	50	-0-	50
15. Tidal Energy Study	600	-0-	600
16. Floating Breakwater/Tidal Energy Study & Demo.	200	5,000	5,200
17. Solar Power Generation Study & Demo Project	500	7,000	7,500
18. Pacific Region Energy Development Council	250	-0-	250
19. Electric Vehicle Demo Project	No Estimate	-0-	-0-
Sub-Totals	1,600	12,000	13,600
GRAND TOTALS	\$ 4,300	\$225,000	\$229,300

OVERALL RECOMMENDATIONS

Panel recommended the following considerations as important toward implementing the five-year energy plan.

1. Assessment
2. Forecast: Demographic; New Industry
3. Energy Replacement
4. Energy for New Industry
5. Concentrate on Small-Scale Technology Compatibility: Personnel Relevance
6. Utilize Available Technologies
7. Conservation: Equal Emphasis

Pacific Basin Development Conference**Workshop 4, Panel A
ENERGY****PROGRAM ELEMENT 1****Regional/Island Energy Resource Assessment & Plan****Problem Definition:**

A regional energy plan is needed to maximize the energy requirements via local or renewable sources by the year 1990.

Plan of Action:

1. Inventory existing energy resources to include collection and storage of solar geothermal and ocean thermal information and data.
2. Conduct an analysis of industrial/commercial, residential and transportation needs, including external requirements such as jet fuel, fishing vessels and shipping needs.
3. Conduct a survey of Pacific Island regional energy projects.
4. Analyze and forecast energy requirements for various types of residential, municipal, commercial and industrial development.
5. Prepare an energy plan for each Pacific Basin Territory/State, mid-and long-range, small and large scale.
6. Analyze regional aspects of individual plans and integrate into regional energy strategy.
7. Determine realistic energy self-sufficiency goals for the various Pacific Basin islands.

End Product:

An integrated regional resource assessment and energy plan, as well as an assessment and plan for each Island group.

Benefit:

The basis for proceeding with energy and economic developments that emphasize renewable resources.

Schedule:

1. Research strategy and survey - one year
2. Analysis, plans and recommendations - one year

Estimated Cost:

1. Survey and research done concurrently - \$250,000
 2. Analysis, plans, etc. - \$250,000
- Total - \$500,000

Constraints:

1. Priority position vis-a-vis national policy and needs.
2. State of the art of renewable energy resource technology.
3. Lack of capital.
4. Environmental considerations.
5. Renewable sources are not substitutes for heavy dependence on petroleum liquid fuels needed for tourism, trade, and industrial transport, even though ethanol may reduce such dependence.

Lead Agency:

DOE and the energy and economic development and land and natural resources offices of the Islands.

Priority: 1

Pacific Basin Development Conference

Workshop 4, Panel A ENERGY

PROGRAM ELEMENT 2

First Annual Symposium for Energy Technology and Applications to the Pacific Basin Region

Problem Definition:

There is a need to expose the Pacific Islands to the latest energy technology and its application to developing countries; provide a forum in which energy problems, needs and conditions of developing countries can be exposed, understood and explored; and develop international expertise and experience pertaining to energy requirements, conservation techniques and indigenous alternative resources for insular and isolated developing countries.

Plan of Action:

Because of the geographically dispersed location of the islands, communication is expected to be a problem. Hence, effective coordination is essential to organize the following:

1. Call for Papers: These papers will be limited to energy related research projects/studies tailored to small island environments/needs.
2. Invited Speakers: Representatives of each of the island territories to make presentation related to the unique energy problems faced by each area as well as their approaches to solving them. Special invitations will be given to the U.S. Department of Energy, the South Pacific Commission and other outside experts.
3. Working Group Sessions: These sessions will be held for discussion of various fields of expertise as related to problems and accomplishments in the island communities.
4. Exhibits & Displays: These will include slide presentations, energy fair displays, demonstration projects, etc. A special mobile exhibit and appropriate technology should be developed to travel to the various islands.

End Product:

An annual exchange of information on energy technological developments and their application to island communities.

Benefit:

Energy conservation and alternative resources deserve, and indeed demand, special treatment in developing areas where transcultural inhibitors and life styles are potential roadblocks to implementing such programs. Technology such as hydroelectric, wind, geothermal, ocean thermal energy conversion (OTEC), biomass, etc., are alien concepts to most Pacific Islanders. Yet within these technologies lie the potential for energy self-sufficiency for many of these vulnerable island entities.

It is imperative therefore, that these technological developments be presented factually, with simplicity, and discussed and shared at the level where they can be understood by the island entities. This type of meeting can offer the islanders the opportunity to share and assimilate ideas that can be used to bring about solutions to their energy needs.

Schedule:

The Annual Pacific Basin Symposium on Energy Technology and its Application should commence in 1981.

Estimated Cost:

\$100,000 per year: \$500,000 Total

Constraints:

Although the societal customs vary throughout the numerous entities comprising the Pacific Basin, climatically, these islands share similar conditions which can easily contribute to the solutions of the energy problems hampering these cultures. It is envisioned, however, that due to the long neglect and isolation of most of the islands, constraints would result mainly from shortage of technical/professional expertise to translate the new technologies into island meanings and applications; inadequate communications and transportation as a result of isolation and remoteness; insufficient funds to subsidize such a widely publicized annual event; and the lack of desire of some smaller island countries to participate due to the combination of the above factors. In addition, the DOE is sponsoring a National Conference on Renewable Energy Technologies to be held in Honolulu in December, 1980.

Lead Agency:

Territorial Energy Office/Office of the Governor, American Samoa and DOE.

Priority: 1

Pacific Basin Development Conference

**Workshop 4, Panel A
ENERGY**

PROGRAM ELEMENT 3

**Solar Cooling and Hot Water Heating
Demonstration Project**

Problem Definition:

Demonstration of the utilization of solar hot water heating and solar cooling of buildings in the Pacific Basin Islands.

Plan of Action:

Demonstrate actual use of available hardware for commercial and residential applications.

End Product:

Increased use of solar applications.

Benefit:

Reduced dependence on imported oil.

Schedule:

Demonstrate solar hardware and collect data on annual basis.

Estimated Cost:

\$500,000 annually for a total of \$2,500,000.

Constraints:

Available hardware.

Lead Agency:

DOE, Island Energy Offices.

Priority: 1

Pacific Basin Development Conference**Workshop 4, Panel A
ENERGY****PROGRAM ELEMENT 4****Energy Conservation Campaign & Energy House Demonstration Project****Problem Definition:**

There is a need to educate and motivate the public and business communities toward efficient use of energy resources.

Plan of Action:

1. To conduct a campaign, including media use, to educate students and adults in the efficient use of energy.
2. To educate commercial users on efficient energy uses.
3. To develop an "Energy House" as a demonstration and public education facility using energy efficient practices.

End Product:

A reduction of pressure on the limited available energy resources by encouraging lower energy consumption by both public and commercial users.

Benefit:

Decreased reliance on imported oil, lower energy bills and more efficient use of 3 available fuels.

Schedule:

1. Public Conservation Campaign - 3 years.
1st year - planning and targeting
2nd & 3rd year - development and implementation of school and public effective energy use campaign
2. Energy House
1st year - planning, design building
2nd year - public demonstration, design, construction refinements
3rd year - collect data/evaluate effectiveness

Estimated Cost:**Conservation Campaign**

year 1 - \$200,000
year 2 - \$200,000
year 3 - \$200,000

Campaign Total - \$600,000

Energy House - \$400,000

Constraints:

1. Lack of public belief that there is a real energy shortage.
2. Belief that a "big-fix" technology will appear to alleviate the energy shortage.
3. Conservation efforts might "be bad for business."

Lead Agency:

Energy offices and other appropriate government offices of each of the 4 Island groups.

Priority: 1

Pacific Basin Development Conference**Workshop 4, Panel A
ENERGY****PROGRAM ELEMENT 5****Development of Geothermal Based Industries in the Pacific Basin****Problem Definition:**

Identify geothermal resources together with technical and financial capabilities for an integrated implementation commercialization program that will include generation of electricity and direct heat applications from geothermal energy in the Pacific Basin.

Plan of Action:

Phase I: Analysis of several geothermal development possibilities focusing an integrated development of agricultural processing, or referring, medical and transit facilities, with spillover opportunities for urban and rural electrification.

1. Assessment of reservoir potential in the various islands, especially American Samoa and the Northern Marianas Islands.

Phase II: Prioritize sites, such as Pagan in the Northern Marianas and Tutuila American Samoa, and drill test holes to determine geothermal potential. This would be in addition to the projects underway in Hawaii.

1. Develop and market implementation plans to produce small scale electrical and direct heat applications for distribution to communities, agricultural and industrial sites.
2. Form or join an appropriate implementing development authority, consisting of all market sector elements that will sponsor this program.

End Product:

Necessary analyses, assessments, prioritize sites and implementation plans and organization for geothermal energy organization for geothermal energy development in the Pacific Basin Islands.

Benefit:

Replace imported fuels with abundant local resource. Encourage varied economic developments based on geothermal energy. Encourage agricultural and industrial development. Emphasis on rural applications.

Schedule:

Analyses and assessments (incl. geological and geophysical surveys). Drill test holes. Select and develop suitable wells. Install fire and geothermal delivery systems by 1985.

Estimated Cost:

Phase I - \$500,000
Phase II - \$7,500,000
Total - \$8,000,000

Constraints:

Cost does not include matching funds for facilities and infrastructure.

Lead Agency:

Economic Development Administration, Farmers Home Administration and SBA, AID, DOE and other sources.

Priority: 1

Pacific Basin Development Conference**Workshop 4, Panel A
ENERGY****PROGRAM ELEMENT - 6a - First Year****Study of Possible Ocean Thermal Energy Conversion (OTEC)
Sources in the Pacific Basin Islands****Problem Definition:**

In terms of the economic development of the Pacific Islands excluding Hawaii, there is a need to evaluate their suitability for the establishment of renewable ocean energy systems.

Plan of Action:

1. Study each Island group except Hawaii for ocean conditions conducive to demonstrating energy systems powered by ocean thermal gradients and waves.
2. Analyze the most likely sites in terms of cost, size and power market potential needs.

End Product:

A catalog of candidate sites with estimated plant size and power costs.

Benefit:

Identify OTEC sources that can be used for demonstration and commercial projects that reduce the dependency on petroleum.

Schedule:

One year study

Estimated Cost:

\$300,000 for first year

Constraints:

1. OTEC activity of DOE in Hawaii discourages other ocean energy sources research elsewhere in Pacific.
2. Early stage of ocean sources technology and long lead time detrimental to competition for DOE research dollars.

Lead Agency:

DOE

Priority: 1

Pacific Basin Development Conference**Workshop 4, Panel A
ENERGY****PROGRAM ELEMENT - 6b - Years 2-5****Ocean Thermal Energy Conversion (OTEC) Demonstration
Systems in Addition to Those in Hawaii****Problem Definition:**

There are opportunities to demonstrate OTEC systems in commercial operation in the Pacific Islands outside of Hawaii. The ocean is a, if not the, major resource of these islands.

Plan of Action:

Each demonstration plant project would consist of the following common steps: - (1) site survey, environmental impact assessment and preliminary design (2) detail design (3) procurement and construction (4) deployment and operation.

1. Suggested project for the Northern Marianas
 - a. Select a site with steep cliff and deep ocean near the coast, as on the east coast of Tinian.
 - b. Solicit federal funding for demonstration of a small land based OTEC of two MW capacity (the total electrical consumption of Tinian is 1.2 MW at present).
 - c. Collect performance data.
2. Suggested project for Guam
 - a. Continue environmental, engineering, and economic studies on OTEC impact.
 - b. Educate and secure local and federal support targeting Guam as demonstration site for first 100 MW operational plant.
 - c. Solicit local financing support for cost sharing agreements with Federal Government.
3. Suggested project for American Samoa
 - a. Commence environmental engineering and economic studies on OTEC impact.
 - b. Solicit funding support for 5 MW capacity demonstration facility.

End Product:

Production of electricity from a local resource for domestic, institutional, commercial and industrial purposes as part of the Energy Self-Sufficiency Program for the U.S. Islands.

Benefit:

1. Replacement of expensive imported oil products by a local renewable resource.
2. Elimination of air and water pollution caused by use of oil products.
3. Encouragement of economic development of the U.S. Territories through utilization of a neglected and abundant resource.
4. Additional valuable testing under commercial conditions of different sizes of this new renewable energy technology.

Schedule:

1. The Northern Marianas
 - a. 1982 - Installation of one OTEC plant.
2. Guam
 - a. 10-40 MW sea-based plant installed by 1985.
3. American Samoa
 - a. 1983 installation of one OTEC plant.

Estimated Cost:

The Northern Marianas -\$6 million

Guam - \$120 million

American Samoa - \$10 million

Constraints:

1. High to very high initial capital costs.
2. Competition of more advanced and promising renewable energy technologies for limited USG energy research funds.

Lead Agency:

DOE

Priority: 1

Pacific Basin Development Conference**Workshop 4, Panel A
ENERGY****PROGRAM ELEMENT 7****Submarine Cables for Inter-Island Electric Power Systems****Problem Definition:**

Need to develop submarine cables suitable for efficient inter-island power transmission systems.

Plan of Action:

1. Determine feasibility of long submarine cables for power transmission between islands.
2. Develop conceptual designs for bottom and riser cables.
3. Provide detailed design of submarine cables.
4. Fabricate and test sample cables.
5. Develop Installation Plan and interface component designs.
6. Fabricate interface components.
7. Provide test plan.
8. Initiate and complete sea trials.
9. Assess environmental impact of long submarine cables.

End Product:

Proven engineering design for long submarine cables.

Benefit:

Development of a major component for an efficient inter-island power system.

Schedule:

First year - Feasibility Study and Conceptual Designs.

Second year - Detailed Designs and Installment Plans.

Third year - Fabrication of Sample Cables and Components.

Fourth year - Assembly of Test Cable System and Initiation of Sea Trials.

Fifth year - Completion of Sea Trials and Environmental Impact Studies.

Estimated Cost:

First year - \$1,000,000

Second year - \$2,000,000

Third year - \$3,000,000

Fourth year - \$3,000,000

Fifth year - \$2,000,000

Constraints:

1. Cost (may need Congressional initiative)
2. Extreme depths of water surrounding Pacific Islands.

Lead Agency:

Department of Energy

Priority: 1

Pacific Basin Development Conference**Workshop 4, Panel A
ENERGY****PROGRAM ELEMENT 8****Six (6) MW Cogeneration Plant****Problem Definition:**

American Samoa's electrical system is now dependent on inefficient diesel units which are approaching the end of their service life. The situation has become critical since the age and condition of these units now severely limits Samoa's economic development as well as improvement of the standard of living of its people. Establishment of a cogeneration plant should provide additional electricity to reduce diesel fuel reliance and ultimate costs to the consumer by producing a process system with gas turbine exhaust heat.

Plan of Action:

Establish source of funding and commencement of immediate design and construction.

End Product:

A 6 megawatt cogeneration plant to produce and process steam with gas turbine exhaust heat, as an additional source of energy for industry and commerce.

Benefit:

Creation of additional capacity to meet community needs together with more efficient use of energy resources for economic development.

Schedule:

Design - 6 months

Construction - 12 months

Estimated Cost:

\$6,000,000

Constraints:

Present lack of funds

Possible coastal zone management problems with locations

Lead Agency:

Department of the Interior, Public Works of American Samoa Government

Priority: 1

Pacific Basin Development Conference

Workshop 4, Panel A ENERGY

PROGRAM ELEMENT 9

Petroleum Fuels Storage Reserve Program

Problem Definition:

The territories of Guam, the Northern Marianas and American Samoa are totally dependent on imported petroleum products for their economic development and improvement of living conditions. Most, if not all, of their economic development plans are based on establishment of adequate electric power at reasonable rates. Expansion of the tourism base requires some assurance of jet fuel availability and stability of cost. Increasing fishing, shipping, and transshipment activities likewise rely on petroleum based fuels. These islands need a measure of protection from sudden supply interruptions and price accelerations as occurred during the 1973-74 OPEC oil embargo.

Plan of Action:

Develop and construct secure and adequate storage facilities for residual fuel oil, commercial jet fuel, diesel and bunker fuels for at least a 16 day period. This plan can be implemented by borrowing some concepts developed for the Strategic Storage Reserve Program.

End Product:

This program would provide interim relief to these insular communities while alternatives, such as developing other supply sources, allocations, rationing, assistance from other communities, etc., are worked out. A more orderly phasing in of alternatives would minimize the disruptions and dislocations resulting from a sudden supply cut off. This protective device is necessary as long as alternate energy sources and systems development lag behind petroleum based products in terms of economic viability.

Benefit:

The insular committees would have some time to address and implement the necessary adjustments and accommodations brought about by sudden changes in supply volumes and sources.

Schedule:

1980. The development of administrative and jurisdictional guidelines can be developed within a fairly short time frame. In addition, the project engineering design and the initial phase of construction can be completed in 1980 with a 100% completion by mid to late 1981. Supply purchase and storage can be phased in over a period of time after construction.

Estimated Cost:

\$2.5 million for storage and logistic facilities construction. In addition, federal assistance should be sought for petroleum crude or products purchases. Total storage capacity envisioned is approximately 700,000 barrels for residual fuel, jet fuel and diesel.

Constraints:

1. Financing of project construction.
2. Federal acceptance of the concept.
3. Federal assistance in supply allocation to the territories.
4. Financing of supply purchases.

Lead Agency:

Energy Offices of the Territories, Department of the Interior, Department of Commerce.

Priority: 1

Pacific Basin Development Conference

**Workshop 4, Panel A
ENERGY**

PROGRAM ELEMENT 10

Feasibility Study of a Combined OTEC and Aquaculture System

Problem Definition:

To assess the feasibility and benefits of an OTEC-Aquaculture System.

Plan of Action:

1. Quantify beneficial effects of upwelling of seawater nutrients for use in aquaculture.
2. Identify products that can be harvested at OTEC sites and economically be transported and marketed.
3. Conduct a cost-benefit analysis of a proposed combined OTEC and aquaculture system.

End Product:

1. A report assessing the feasibility and economic benefits to be derived from a combined OTEC and aquaculture system.
2. If feasibility is proven, implement demonstration projects in coordination with aquaculture projects recommended in the Fisheries Panel.

Benefit:

This study will provide government planners the data and information to assess the feasibility and cost benefit of a combined OTEC and aquaculture system.

Schedule:

9 months to complete study

Estimated Cost:

Year 1 - \$100,000 for study

Year 2 - \$2,000,000

Year 3 through Year 5 - \$9,000,000

Total - \$11,100,000

Constraints:

None

Lead Agency:

Department of Commerce

Priority: 2

Pacific Basin Development Conference

**Workshop 4, Panel A
ENERGY**

PROGRAM ELEMENT 11

Biomass Energy Resources

Problem Definition:

Disposal of farm and industrial wastes in ways that are environmentally sound and that produce useable energy.

Plan of Action:

Conversion of existing wastes by anaerobic digestion into biogas and fertilizer and utilization of the fertilizer in agriculture and aquaculture projects.

End Product:

Production of biogas, fertilizer and biomass from waste disposal and recycling.

Benefit:

Control of a pollutant source through resource recovery processes.

Schedule:

1st year - Analysis of existing wastes and design of digester plant.

2nd year - Construction of plant to integrate biomass conversion, aquaculture and agriculture.

Estimated Cost:

1st year - \$50,000

2nd year - \$250,000

Constraints:

Demonstration of new technology to convince people that there is no such thing as waste, and that resource recovery is a paying proposition.

Lead Agency:

American Samoa Energy Office for tuna wastes; Northern Marianas Energy Office for farm wastes.

Priority: 2

Pacific Basin Development Conference**Workshop 4, Panel A
ENERGY****PROGRAM ELEMENT 12****Wind Turbine Generator Demonstration Projects****Problem Definition:**

There is a need and opportunity to determine the feasibility of wind power as an alternative way of energy supply in the Pacific Basin Islands. Hawaii, Guam, American Samoa and the Northern Marianas all have sites they feel worthy of demonstration projects.

Plan of Action:

1. Conduct feasibility study.
2. Collect wind data.
3. Select possible sites on and off (floating) shore.
4. Initiate installation of two to three MW capacity generators.
5. Evaluate project effectiveness.

End Product:

Wind Turbine Generation Plants providing valuable operation data as well as electricity.

Benefit:

Provide a proven alternative source of energy that can help reduce reliance on imported oil.

Schedule:

1. Feasibility study, data collection & site selection - 12 to 18 months.
2. Install wind generators - the next year (1981/82).

Estimated Cost:

American Samoa, Northern Marianas, Hawaii and Guam - \$12,000,000 total

Constraints:

1. Lack of funding.
2. Lack of local technical expertise.
3. Resistance to typhoon damage.
4. Competition among Island sites.

Lead Agency:

DOE, EDA and Governments of the Islands.

Priority: 2

Pacific Basin Development Conference**Workshop 4, Panel A
ENERGY****PROGRAM ELEMENT 13****Combination Electrical Power/Desalination Plants
Using Renewable Energy Sources****Problem Definition:**

To define useful size ranges, develop preliminary and detailed designs, and install and operate a working prototype/pilot plant utilizing renewable energy to produce electricity and potable water.

Plan of Action:

1. Survey electric power and fresh water requirements for islands of various sizes/populations/economic activities. Define realistic size ranges for commercially - useful electricity and fresh water quantities.
2. Develop preliminary design concepts using a variety of feasible renewable energy power generation and desalination methods. Compare costs, both capital and operating, for present and future applications. Select one or more concepts for detailed design.
3. Build one or more pilot designs, install and operate them, including on waterborne plant ships.

End Product:

Economically viable combined electricity and desalination plants optimized for island economics, using renewable energy sources.

Benefit:

Electric power and fresh water supplies for satisfying a significant portion of island requirements and development needs.

Schedule:

1. Survey and requirements definition - six months.
2. Preliminary design studies - six months.
3. Final designs - one year
4. Construction and test operations - three years.

Estimated Cost:

1. \$50,000
 2. \$100,000
 3. \$850,000
 4. \$23,000,000
- Total - \$48,000,000

Constraints:

1. Decision-making in comparing a wide variety of potential systems.
2. Timely response of funding agencies.
3. Desire to wait for "better technology."
4. Absence of definitions of electricity and water needs and their effect on economic development of islands.
5. Need to create an effective management mechanism for project.

Lead Agency:

Department of the Interior - Office of Water Research and Technology

Department of Energy - Conservation and Solar Energy

Hawaii - Department of Economic Development

Island Governments

Priority: 2

Pacific Basin Development Conference**Workshop 4, Panel A
ENERGY****PROGRAM ELEMENT 14****Feasibility of Coal/Natural Gas Conversion****Problem Definition:**

American Samoa and Guam currently producing electricity only by means of diesel driven generators. The cost of diesel has increased over 75% since January 1979. Additionally, all diesel fuel is being imported, thus presenting more cost to the consumers. While industrial/commercial/transportation expansion are underway, the expensive cost of electrical power can be a disincentive to these developments.

Plan of Action:

The proposed study should assess the timing process for conversion, cost analyses, storage, coal/gas transportation, site identification, and supplier(s).

End Product:

A detailed study that should provide a basis for the decision making process when conditions warrant conversion.

Benefit:

Provides a basis for economic development planning energy needs.

Schedule:

Within 1 to 2 years

Estimated Cost:

\$50,000

Constraints:

1. Lack of local technical expertise to conduct study.
2. Lack of available funding.

Lead Agency:

DOE/EPA

Priority: 3

Pacific Basin Development Conference**Workshop 4, Panel A
ENERGY****PROGRAM ELEMENT 15****Tidal Energy Development Study****Problem Definition:**

There is a need and opportunity to test small scale generation of electricity by ocean tidal movement.

Plan of Action:

1. Select a coral area near the coast of Saipan to install a water turbine powered by tidal movement.
2. Solicit federal funding for testing of two tidal generators.
3. Collect performance data.
4. Development of tidal energy as one of the Small Scale Energy Technology projects for coastal villages and isolated islands.

End Product:

Production of electricity from local renewable resources.

Benefit:

1. Provide a small source of electricity for lighting and charging batteries where it does not exist (this can be supplemental to other small scale energy sources such as sun, wind, and biomass devices).
2. Improve the quality of life on isolated islands.
3. Discourage migration to urban centers, which is a cause of unemployment and poor housing conditions.

Schedule:

1980 - Installation of two tidal electric generators (one fixed, one floating) in Saipan for demonstration and testing.

Estimated Cost:

\$600,000

Constraints:

1. Competition for R&D funding.
2. New technology has to be demonstrated to convince decision makers that tidal energy can be used to produce electricity for villages.

Lead Agency:

Department of Energy and Economic Development Administration

Priority: 3

Pacific Basin Development Conference**Workshop 4, Panel A
ENERGY****PROGRAM ELEMENT 16****Floating Breakwater/Tidal Energy Study & Demonstration Project****Problem Definition:**

To develop concepts of a combined floating breakwater and wave energy systems that can be used to protect harbors and beaches by extracting and converting wave energy into a useful energy resource.

Plan of Action:

1. Identify floating breakwater and wave energy extraction systems that could be usefully combined.
2. Assess the technical and economic feasibility of the floating breakwater-wave energy extraction system.
3. Identify the system components that need development and outline the development programs required.
4. Construct floating breakwater and wave energy extraction system.

End Product:

A report assessing the feasibility of a combined floating breakwater and wave energy extraction system.

Benefit:

The study may lead to the development of a new technology area that could support local energy requirements as a by-product of beach erosion protection system.

Schedule:

1. 6 months for study
2. 6 months to 9 months for system plan and A&E
3. 18 months to 2 years construction

Estimated Cost:

1 and 2 - \$200,000
3 - \$5,000,000

Constraints:

None

Lead Agency:

Department of Energy

Priority: 3

Pacific Basin Development Conference

**Workshop 4, Panel A
ENERGY**

PROGRAM ELEMENT 17

Solar Thermal Electric Power Study and Demonstration Project

Problem Definition:

Generation of electricity from sun and salt.

Plan of Action:

1. Select a site on a flat island such as Rota for salt making and solar thermal energy conversion.
2. Solicit federal funding for demonstration of a solar thermal power plant of 0.5 MW capacity.
3. Collect data on performance.
4. Integration of solar generated electricity into urban and rural development.

End Product:

Production of electricity from local resources for domestic, institutional, commercial and farming purposes, as part of the Energy Self-Sufficiency Program of the U.S. Islands.

Benefit:

1. Replacement of imported expensive oil products by local renewable resources.
2. Elimination of air and water pollution caused by oil products and their combustion particulates.
3. Encouragement of farming and grain industries in the U.S. islands.
4. Utilization of electric vehicles as a result of cheap source of electricity.

Schedule:

1. 1980 - Installation of one solar thermal plant of 0.5 MW capacity on Rota, and collection of performance data for two years.
2. 1982 - Over a period of four years, installation of four more solar thermal plants of 0.5 MW capacity each to meet the average needs of ROTA, with the existing diesel generators as standby.

Estimated Cost:

1. \$500,000
 2. \$7,000,000
- Total - \$7,500,000

Constraints:

1. Comparatively high initial costs, but practically no fuel cost.
2. Convincing the concerned Federal Agencies that:
 - a. The immediate construction of power plants using local renewable resources is the best investment the U.S. Government can make in its tropical islands; and
 - b. The fuel situation is most critical in the islands, and it makes sense to develop locally available and abundant energy sources, such as solar without any delay.

Lead Agency:

Department of Energy and Economic Development Administration

Priority: 3

Pacific Basin Development Conference

**Workshop 4, Panel A
ENERGY**

PROGRAM ELEMENT 18

Establishment of the Pacific Basin Region Energy Development Council

Problem Definition:

Need for a form and function of Pacific Island Development Council, an institutional structure in which an energy program must function.

Plan of Action:

Examine various forms for actively engaging all needed sectors to the optimum extent.

End Product:

Recommendation of a form for such a council and its operation.

Benefit:

Translation of the PID Conference to a council that is not invented "from scratch", but that takes advantage of similar prior experience.

Schedule:

Such a recommendation could be made in 90 days with all concurrence needed.

Estimated Cost:

\$250,000

Constraints:

Lack of knowledge of various possibly appropriate forms that could be overlooked.

Lead Agency:

PID Conference

Priority: 3

Pacific Basin Development Conference**Workshop 4, Panel A
ENERGY****PROGRAM ELEMENT 19****Electric Vehicle Demonstration Project in Guam****Problem Definition:**

It is necessary to increase availability to commercial and private interests of electric vehicles as viable alternatives to the standard gasoline powered vehicle.

Plan of Action:

A comprehensive research and information gathering project has been initiated to determine what kinds of electric vehicles are currently available or being developed, and the advantages and problems of each. Following a critical examination of the options available, by personal inspection when possible, the Guam Energy Office (GEO) will undertake efforts to encourage some of these manufacturers to make their product available on the island through a new or existing automobile franchise dealership, or through some other designated sales representatives. If appropriate, GEO will help to establish the contacts necessary to explore the possibility of tax incentives for establishment of electric vehicle dealers on the island. GEO will also facilitate the establishment of maintenance services for such vehicles. GEO will also assist in increasing public awareness of the electric vehicle option by helping to educate the public and the media on some of the benefits and problems currently associated with electric vehicles. GEO may itself elect to purchase or lease an electric vehicle for use by this agency for official business, as a demonstration model. We expect also to assist with any inquiries about setting up home generator systems, powered by some renewable resource, for battery charging.

End Product:

Availability of a variety of electric vehicles for sale to commercial and private interests at competitive prices, and availability of a full range of appropriate maintenance services.

Benefit:

An eased demand for gasoline, and correspondingly decreased reliance on imported petroleum products in general, since electric vehicles use available energy in oil more efficiently than gasoline powered vehicles. In theory, the introduction of electric vehicles to replace gasoline powered vehicles would also benefit Guam's air quality, but since that is not a major problem currently, environmental impact may be negligible.

Schedule:

Although at least one electric vehicle model is already available by order, none are currently available for demonstration drives and personal inspection by prospective buyers. Within a year, more information should be available on electric vehicles that can be ordered and shipped to Guam, and there should be a small number of demonstration models available for public examination. A full range of on-site vehicle sales and services should be available at competitive prices within five years.

Estimated Cost:

No estimate recommended by panel

Constraints:

1. High purchase price (this should be less of a problem as technology is developed and improved, and as the vehicles are mass produced.)
2. High perceived price (this will eventually be viewed in a slightly different light as life cycle costing, and cost of operation, becomes a more common consideration among consumers making major purchases.)
3. Public reluctance to invest in a radically new concept of transportation.
4. Technical problems of electric vehicles:
 - a. difficulty negotiating hills.
 - b. relatively short life of current lead-acid battery.
5. Lack of servicing facilities and qualified repair shops.
6. Small vehicles are inconsistent with large families and the public's infatuation with big cars.
7. Many models are still perceived as ugly or "weird" looking.
8. Electric vehicles reliance on an unstable, oil fired, electricity source may be viewed as no solution to problems of scarce expensive imported fuel.

Lead Agency:

Guam Energy Office, DOT and DOE

Priority: 3

REPORT OF THE MUNICIPAL SERVICES PANEL

Workshop 4, Panel B

GOALS & OBJECTIVES

The Panel goal was to cooperatively create a short-term (two year) and a long-term (five-year) strategy for the development of suitable municipal environments and services for population centers of the Pacific Basin Region. Those planning strategies should consider the resources, constraints, geographical size, cultural desires and needs of the individual population center for which planning strategies were to be developed. The Panel participants during their discussions modified the objectives to:

1. Develop services to enhance the quality of life.
2. Locate favorable climate for economic development.
3. Consider the needs of individual population centers.

ISSUES

The main issue discussed was the fact that many of the Islands of the Pacific Basin Region lack the infrastructure -- especially land area -- to support new industry and other expanding economic activity in or near their population centers. These population centers elicit the demands for many of the needs identified in the suggested program elements in most of the Conference workshop/panels. These municipalities are also the places where current trade, tourist facilities, business offices, manufacturing and processing plants, educational institutions and government offices are located. New and expanding economic development activity would naturally face a competitive situation of land use in initiating thrusts toward growth.

However, there is an alternative to those competing interests: floating platforms to house municipal service facilities such as waste management ships, sea-water desalination ships, industrial plant/processing vessels are some examples. Other examples of floating facilities are fossil-fuel power plants, wave

power generating vessels and other energy devices, as well as aquaculture vessels. Such marine service programs relieve the crowding of increasingly dense municipal areas, offer the opportunity to utilize the Region's greatest physical resource -- the ocean, and potentially provide a new market for American shipyards, since the platforms and/or ships could be towed from the Mainland to Island positions.

Other issues, reflected in the suggested program elements, relate to human resource development, public works, municipal services and funding needs of the Island and local governments.

PARTICIPANTS

The Municipal Services Panel attracted 19 participants; three representatives from business and industry; six from Island governments; nine from the Federal government and one from academia. A Program Manager with the Office of Maritime Technology, MarAd, acted as resource person, and a Vice-President of A.T. Kearney, Inc. assisted the Chairman and Panel participants during the course of the sessions.

A listing of Panel participants and their organizational affiliations are shown on the following page.

MUNICIPAL SERVICES PANEL PARTICIPANTS

Workshop Vicechair:

Lloyd Fink
Program Manager

Office of Maritime Technology
MarAd, Dep't of Commerce

Panel Chair:

John Craven
Coordinator

Office of Marine Affairs
State of Hawaii

Participants:

Eric S. Casino

Fund Pacific Assocs.

Jim Caudillo

Marine Affairs Office
State of Hawaii

Pedro G. Cruz, Jr.

Guam Housing & Urban Renewal

Paul DeFalvo, Jr.

EPA, San Francisco

Jown W. Egan

A.T. Kearney, Inc.

William Galea'i

Am. Samoa Legislature

Carl L. Goldstein

CNMI, EPA, Washington, D.C.

Max Halebsky

Global Marine Development
Newport Beach, CA

Michael P. Hamnett

East West Center, Honolulu

John A. Keenan

U.S. Dept. of Labor
Washington, D.C.

Gloria Molina

DHEW, San Francisco

Kenneth Larson

U.S. Dept. of Labor, San Francisco

Calvin Lew

U.S. Dept. of Labor, HI

Emma D. McFarlin

HUD, San Francisco

Carl Smith

Wanket Smith & Hogoda, HI

Jane Smith

Dept. of Agriculture, San Francisco

Janet C. Swift

Govt. of Am. Samoa

Ace A. Tago

Office of Governor, Pago Pago

ORGANIZATION & OPERATIONS

The Panel, under the direction of Chairman Craven, convened and reviewed the Panel materials contained in the Conference Workbook.

Additional program elements were drafted and added to the originally suggested 19 elements for consideration and discussion and the ensuing deliberations of all the elements resulted in deletions and combinations. The table below shows the results of the Panel's deliberations and discussions regarding the elements.

MUNICIPAL SERVICES PANEL 4-B

Program Element Inventory

Suggested Program Elements	19
Additions and/or Transfers In	25
Deletions, Combinations and/or Transfers Out	<u>19</u>
Final Program Elements	25

The final developed program elements were ranked as follows:

<u>#of P.E.'s</u>	<u>RANKING</u>
7	Priority 1 (Immediate Need)
10	Priority 2 (Long-Range)
8	Priority 3 (Back-Up)

PROGRAM RECOMMENDATIONS

The seven programs ranked Priority 1 covered a variety of needs - studies, human resources development, public works and energy demonstration projects and the establishment of a housing loan fund. Priority 2 ranked programs also reflected a broad spectrum of concerns ranging from energy and sea-mining studies through public works and educational projects to demonstration prototypes in sewage/waste disposal and sea-water desalinization. Priority 3 programs paralleled Priority 1 and 2 concerns of broad needs, also including studies, public works projects and demonstration prototypes. The tables on the following pages detail each program element, its priority and five-year estimated cost.

MUNICIPAL SERVICES PANEL 4-B
FIVE-YEAR ESTIMATED PROGRAM COSTS
' (\$000)

<u>PROGRAM ELEMENT</u>	<u>BASIC</u>	<u>MAJOR</u>	<u>TOTAL COST</u>
Priority 1 (Immediate Need)			
1. Industrial Plant Vessel Study	400	-0-	400
2. Regional Development Bank Feasibility Study	200	-0-	200
3. Recruitment & Training-- Public Administrators	4,750	-0-	4,750
4. Labor Force Training	4,500	-0-	4,500
5. Trash Recycling & Energy Generation Project	1,000	19,000	20,000
6. Executive Office Bldgs.-- Am.Samoa, Guam, No.Marianas	-0-	60,000	60,000
7. Regional Housing Loan Fund	-0-	30,000	30,000
Sub-Totals	\$10,850	\$109,000	\$119,850
Priority 2 (Long-Range)			
8. Marine Technology--A Curriculum Module	150	-0-	150
9. Alcohol Develop. for Energy-- Feasibility Study	200	-0-	200
10. Metals from the Ocean Study	300	-0-	300
11. Canton Is. Develop Corp. Study--Am. Samoa	25	-0-	25
12. Univ. Tech Assist.Via Expansion of Sea Grant Program	2,500	-0-	2,500
13. Fish Processing Vessel Feasibility Study	100	-0-	100
14. Regional Develop' Loan Bank	-0-	50,000	50,000

MUNICIPAL SERVICES PANEL 4-B
FIVE-YEAR ESTIMATED PROGRAM COSTS
($\$000$)

Priority 2 (Long-Range) Cont'd.

15. Water/Sewer Systems Improvements	-0-	20,000	20,000
16. Co-disposal Study & Demo Project Sewage Sledge/Muni Solid Wastes	150	19,850	20,000
17. Desalinization Project	-0-	5,000	5,000
Sub-Totals	\$ 3,425	\$94,850	\$98,275

Priority 3 (Back-Up)

18. Chemicals from the Ocean	250	-0-	250
19. Remote Housing Prototype Develop. & Construction	150	350	500
20. Floating Hotel/Recreation Unit Feasibility Study	250	-0-	250
21. Distillary Plant Vessel Feasibility Study	150	-0-	150
22. Territorial Street/Hwy Lighting Project	-0-	100	100
23. Regional Nat'l Marine Park System Plan & Develop.	200	4,800	5,000
24. Regional/Island Emergency & Safety Services	-0-	2,000	2,000
25. Ocean Incineration of Hazardous Wastes--Study & Dev.	200	19,800	20,000
Sub-Totals	\$ 1,200	\$27,050	\$28,250
GRAND TOTALS	\$15,475	\$230,900	\$246,375

OVERALL RECOMMENDATIONS

The thoughtful consideration of the Municipal Services Panel participants in offering overall recommendations to reinforce program recommendations of the five-year development strategy is obvious, and those considerations are shown below.

1. Establish an obligation on the part of government, private industry, and project sponsors to provide education, training, capacity building, and technology transfer so that island personnel can implement, operate, maintain, repair, and oversee the facilities and operations funded to support economic development.
2. Establish an effective interagency committee among federal and local agencies for timely technical assistance, comprehensive planning, application review and approval, project execution and assessment of economic development activities, and particularly emphasize monitoring of progress in carrying out Conference recommendations.
3. Establish an on-going information center and clearinghouse as a data and information source for all Pacific Island past, present, and future studies and implementation programs, including current status.
4. Establish effective technical assistance programs to support municipal development and provide for specific federal agency assistance in developing reports/applications required by federal agency programs.
5. Assign an Island coordinator in each agency and consider Island personnel for such positions.
6. Introduce required legislation to implement Conference recommended programs.

Pacific Basin Development Conference**Workshop 4, Panel B
MUNICIPAL SERVICES
PROGRAM ELEMENT 1****Study of Industrial Plant Vessels for the Islands****Problem Definition:**

Many of the Islands lack the infrastructure, including land, to support new industries and other economic activities in or near their population centers. One solution to this problem could be use of industrial plant vessels to provide services, extract resources, convert resources into products or modify the character of resources or products.

Plan of Action:

1. Initiate studies to establish which municipal problems have possible marine and/or marine technology solutions that could utilize industrial plant vessels. As part of the study, survey the potentially available ocean resources, as well as world marketable products that can be produced and exported using locally available and/or imported resources.
2. Identify for each of the four island areas those specific municipal problems which have marine or marine technology solutions and recommend the specific industrial plant vessel which could best solve the problems for each of the four island areas. Consider cost and energy effectiveness of the solutions.
3. Determine the quantity and technical level of the personnel required to implement the solutions.
4. Set up consultations between the local administrations of the Islands and the Federal agencies involved or related to such municipal development.
5. Determine the training needs required for and the sociological impacts of proceeding with the solutions.
6. Carry out the programs through cost-sharing and management of projects in the appropriate departments in (a) urban and industrial development; (b) transportation technology; (c) energy resource development in terms of floating electrical and other industrial plants; (d) waste management; (e) public affairs, recreation, security, and the like; and (f) education.

End Product:

1. Planned programs for solving the islands' problems.
2. Solutions to the islands' municipal and economic problems through innovative maritime technology concepts.
3. Assessment of available personnel, training needs, and sociological impact.

Benefit:

1. For the islands -- new industries, new jobs, development of ocean resources and disposal of and resource recovery from municipal wastes.
2. For the mainland -- a major new thrust for U.S. shipyards, new jobs and development of new ocean technologies and resource recovery and extraction methods.

Schedule:

1. Studies and consultations -- one year.
2. Develop cooperative programs -- one year.

Estimated Cost:

1. First year (studies and consultations) -- \$200,000
2. Second year (develop programs) -- \$200,000

Constraints:

1. Plant process systems must first be proven to be technologically successful on shore before being adapted to waterborne operations.
2. The industrial plant vessels must offer attractive economics.
3. The institutional hurdles of laws, regulations, tax and financial incentives, trade policy, etc.

Lead Agency: MarAd

Priority: 1

Pacific Basin Development Conference**Workshop 4, Panel B
MUNICIPAL SERVICES****PROGRAM ELEMENT 2****Feasibility Study for a Regional Development Bank****Problem Definition:**

To determine the viability of a Regional Development Bank for the U.S. Island Territories and the State of Hawaii.

Plan of Action:

1. Survey the attitudes of the political entities involved towards a Regional Development Bank.
2. Assess the realities of the politics involved in managing the new concept and the relative benefits to each island entity.
3. Evaluate capitalization requirements and resource allocation.
4. Develop tentative procedures and policies for the operation of such a bank.
5. Recommend alternative locations, enabling legislation and time frames for implementation.

End Product:

A study of a Regional Development Bank which combines all the pros and cons as well as the feasibility of such a concept.

Benefit:

The acceptance or rejection of the Regional Development Bank concept will be based on an integrated strategy.

Schedule:

Survey -- three months.

Analysis of regional concept and recommendations -- three months.

Estimated Cost: \$200,000

Constraints:

1. Time frame for the study may be too restrictive but necessary for decision making.
2. It is possible that the expenditure of such a large sum of money could be more productively used in an action project.

Lead Agency:

Department of Commerce, Economic Development Administration

Priority: 1

Pacific Basin Development Conference

Workshop 4, Panel B
MUNICIPAL SERVICES
PROGRAM ELEMENT 3

Recruitment and Training of Public Administrators

Problem Definition:

Lack of sufficiently trained middle and top management public administrators.

Plan of Action:

Implement a variety of programs to recruit/train/upgrade government employees and create inducements to attract qualified personnel.

End Product:

An effective government management system.

Benefit:

All programs capable of being managed by Island governments.

Schedule: Immediately

Estimated Cost:

\$950,000 to recruit, train and pay salaries for one year for thirty federal grant managers. Five year total -- \$4.75 million.

Constraints:

Lack of office space -- must be implemented in conjunction with Program Element #6.

Lead Agency: DOL/DOI

Priority: 1

Pacific Basin Development Conference**Workshop 4, Panel B
MUNICIPAL SERVICES
PROGRAM ELEMENT 4****Labor Involvement and Training****Problem Definition:**

Economic Development's natural partner is Job Development. Involvement of the labor community in the planning and concept formulation stage is essential. There is also a need to address training and work force plans and to include employment standards, safety and health, and statistics gathering early.

Plan of Action:

Before funding and private sector investment takes place, there is need to assess the existing work force needs for training to avoid importation of foreign workers to the detriment of the local population in each island.

End Product:

Systematic approach and reviewed/concurred plan of action to form the partnership between the public, private, and government sectors with labor.

Benefit:

Avoidance of problems in obtaining a needed work force.

Schedule:

Concurrent with the planning phase.

Estimated Cost: \$900,000/year Five year total -- \$4.5 million.

Constraints: Organizational

Lead Agency:

U.S. Department of Labor and State Employment Office

Priority: 1

Pacific Basin Development Conference**Workshop 4, Panel B
MUNICIPAL SERVICES
PROGRAM ELEMENT 5****Trash Recycling and Energy Generation Project****Problem Definition:**

Municipal solid waste (MSW) is generated at an average rate of 3.5 pounds per person per day in the Islands and is normally disposed of in land fills. This not only consumes valuable, scarce land, but is a waste of increasingly scarce materials and energy, both of which can be recovered from the waste. In these circumstances, there is need to determine the economic viability of material and energy recovery and alternative uses of MSW.

Plan of Action:

1. Survey the Pacific Basin Islands to determine the status of material and energy recovery from MSW.
2. Obtain data from the local governmental authorities or by direct on-the-scene determination, as necessary, of waste quantities, disposal locations, overall disposal costs and waste composition.
3. Determine the potential market, internal and export, for recovered materials, refuse derived fuel, and direct steam or electric power generation.
4. Develop a scenario for trash recycling including energy recovery.
5. Determine the economic viability of material and energy recovery from MSW appropriate for the islands.

End Product:

- Initial A report showing the economic viability of trash recycling, including quantities, costs and recommendations for further action.
- Final Trash recycling facilities

Benefit:

1. Recovery of valuable products from waster; namely, materials and energy.
2. Minimizing unproductive use of the limited land area.

Schedule:

1. Initial viability study -- one year.
2. Operational trash recycling -- three years.

Estimated Cost: \$20.0 million

Years 1-2 -- \$500,000/year

Years 3-4 -- \$5.0 million/year

Year 5 -- \$9.0 million

Project Facility and Operations

Constraints:

Possibility of insufficient MSW on the smaller islands to support such a facility.

Lead Agency:

DOE for funding the viability study.

EPA for characterizing the existing MSW.

The local governmental entity would own the facility (EDA funding support) which would be designed, built and operated by private interests.

Priority: 1

Pacific Basin Development Conference

**Workshop 4, Panel B
MUNICIPAL SERVICES**

PROGRAM ELEMENT 6

Executive Branch Office Buildings for
American Samoa, Guam and The Commonwealth of the Northern Mariana Islands

Problem Definition:

To consolidate and remove all Executive Branch offices now scattered throughout the primary commercial areas.

Plan of Action:

1. Design work is to be completed within one year.
2. Locate funding sources for actual construction of the building.
3. Construction of the buildings.

End Product:

Completion of new government office buildings.

Benefit:

With the completion of this project, government offices now occupying valuable commercial area will be removed, personnel management will be improved through centralization, energy usage will be reduced due to centralized transportation and utility systems, and public access to government services will be enhanced due to consolidation.

Schedule:

Design work -- one year
Construction -- two years

Estimated Cost:

A & E work -- \$500,000

Construction -- \$59.5 million

TOTAL -- \$60.0 million

Constraints:

1. The realities of the presidential initiative to balance the budget and the identification of those federal agencies with resources that could help finance this project are major roadblocks.
2. Limited local resources preclude seeking outside funding sources for the project.

Lead Agency:

U.S. Department of the Interior, U.S. Department of Energy, U.S. Economic Development Administration, U.S. Department of Housing and Urban Development.

Priority: 1

Pacific Basin Development Conference

Workshop 4, Panel B
MUNICIPAL SERVICES
PROGRAM ELEMENT 7

Regional Housing Loan Fund

Problem Definition:

There is a need to provide capital for residential housing loans in the Pacific Basin Region, especially in American Samoa, Guam and the Northern Marianas.

Plan of Action:

1. The Local Development Bank will administer the Housing Fund.
2. The Bank's Board of Directors will formulate policies to administer the Fund.
3. Additional capital would be released immediately to housing applicants that have been waiting for years.

End Product:

Availability of loanable funds for residential housing.

Benefit:

The availability of adequate loanable capital will mean clearing the backlog of housing applications.

Schedule: On-Going

Estimated Cost: \$30,000,000

Constraints:

1. Lack of available loan capital has made the need to seek outside help imperative.
2. The possibility of a severe recession may restrict the expansion of the housing market at this time.
3. The availability of land use and utility systems may restrict the quick expansion of the housing market.
4. Lack of mortgage security laws and land title systems.

Lead Agency:

U.S. Department of Housing and Urban Development.

Priority: 1

Pacific Basin Development Conference**Workshop 4, Panel B
MUNICIPAL SERVICES
PROGRAM ELEMENT 8****High School and Elementary School Marine Technology Module --
An Example of Ocean Oriented Education and Training Possibilities****Problem Definition:**

Given the maritime orientation of the Island, there is need to develop a Marine Technology Module covering Marine Transportation, Aquaculture, Ocean Resources and Ocean Energy. At the high school level this will be incorporated into the Hawaii Marine Science Studies (HMSS) curriculum, multidisciplinary course currently being taught in 60 Hawaii and Massachusetts schools. (Note: This concept could also be utilized for other types of training and education pertinent to the Islands.)

Plan of Action:

1. Assemble data and existing curriculum pieces regarding marine technology.
2. Design and write student materials, teacher guides and supplementary readings.
3. Reproduce materials for trial testing in high schools.
4. Consider the use of a floating, and perhaps mobile, classroom or school.
5. Carefully adapt on a regional basis.

End Product:

A Marine Technology Module for both high school and elementary levels.

Benefit:

The students will profit from an understanding of ocean technological processes, including recent rapid advances in aquaculture, ocean mining, ocean energy conversion, fishing, transportation, sea water agriculture and deep sea diving because:

1. Contemporary technological examples aid in understanding of and give meaning to basic physical and biological processes.
2. These students will be far better informed voting citizens on ocean issues.

Schedule: One Year**Estimated Cost: \$150,000****Constraints: None, except funding.****Lead Agency:**

Curriculum Research and Development Group, University of Hawaii, MarAd and the Department of Education.

Priority: 2

Pacific Basin Development Conference**Workshop 4, Panel B
MUNICIPAL SERVICES
PROGRAM ELEMENT 9****Feasibility Study for Alcohol Development for Energy****Problem Definition:**

To produce on plant ships liquid fuel from local resources to run automobiles and farm vehicles.

Plan of Action:

A Technical Feasibility Study to determine whether to proceed along the following or some other course:

1. Select agricultural stations on two islands to build distillation to produce alcohol from biomass, that can be placed in plant ships.
2. Solicit federal funding for this demonstration of alcohol production and its utilization in internal combustion engines.
3. Collect data on production and performance.
4. Integrate biomass production and alcohol utilization in transportation plans.

End Product:

Production of ethanol and methanol as fuel.

Benefit:

1. Replacement of gasoline and diesel oil for use in private and public transportation.
2. Elimination of pollution caused by the combustion of oil production.
3. Encouragement of tuber production by local farmers who could get a better price for their produce that if it is sold as food.

Schedule: One Year**Estimated Cost: \$200,000****Constraints:**

1. Cost of production/price of putput.
2. Use of scarce crop land to produce alcohol instead of food.
3. Likely output vis-a-vis the island's liquid fuel requirements.

Lead Agency:

MarAd and U.S. Department of Energy

Priority: 2

Pacific Basin Development Conference**Workshop 4, Panel B
MUNICIPAL SERVICES****PROGRAM ELEMENT 10****Metals from the Ocean Study****Problem Definition:**

Evaluate the viability of an islands' industry centered around the extraction of metals from nodules in the ocean.

Plan of Action:

1. Evaluate metal containing nodules available from sea waters near Trust Islands.
2. Assess economics of metals extraction processes, including use of floating platforms, operated from renewable energy sources of the Islands.
3. Consider other valuable products extraction in addition to metals and look at combined economics.
4. Develop a program plan for candidate metals.

End Product:

An assessment of economic factors for extraction of various metals and minerals from the ocean.

Benefit:

A new industry concept for the islands and cheaper production of some metals or minerals.

Schedule: Two Year Study

Estimated Cost: \$300,000

Constraints: None.

Lead Agency: MarAd/EDA/NOAA

Priority: 2

Pacific Basin Development Conference**Workshop 4, Panel B
MUNICIPAL SERVICES****PROGRAM ELEMENT 11****Feasibility Study for a Development Corporation for
Canton Island, American Samoa****Problem Definition:**

To determine potential economic development projects for Canton Island through a Development Corporation or some other mechanism.

Plan of Action:

1. Survey the island's infrastructure and natural resources to determine the most viable development projects suitable to the island and Region.
2. Determine organizational set up necessary and compatible with the political entities involved.
3. Develop funding alternatives, if feasible, to begin the development of the island.

End Product:

An integrated document which could be used for extensive discussion and subsequent negotiations.

Benefit:

Fisheries is an extremely important resource of the Region and concrete steps taken now to assure the availability of fish supply to the island canneries is an indispensable element of any Regional development program.

Schedule:

Survey and report -- six months

Estimated Cost: \$25,000**Constraints:**

1. Sensitivity to diplomatic relationships may limit open communication between the contractors and the government involved.
2. Because of its political independence, the government involved might prefer taking the initiative for making the study on its own.
3. The U.S. State Department might wish to take a non-aggressive position on the matter.

Lead Agency:

U.S. Department of State

Priority: 2

Pacific Basin Development Conference

**Workshop 4, Panel B
MUNICIPAL SERVICES**

PROGRAM ELEMENT 12

Universities Involvement Through Sea Grants

Problem Definition:

To provide University expertise to municipal development processes of the Region.

Plan of Action:

Establish a Regional Development category in the Federal Sea Grant Program.

End Product:

Continuing output of advanced technology development studies of use to municipal development.

Benefit:

Assure that municipal developments are utilizing the latest, most appropriate technology.

Schedule:

Begin in FY 1981

Estimated Cost: \$500,000 per annum -- Total \$2.5 million

Constraints:

Funding and organizational.

Lead Agency:

U.S. Department of Commerce, NOAA, and appropriate universities on the Islands and the Mainland.

Priority: 2

Pacific Basin Development Conference**Workshop 4, Panel B
MUNICIPAL SERVICES****PROGRAM ELEMENT 13****Fish Processing Vessels Feasibility Study****Problem Definition:**

Evaluate the economics of using floating fish process vessels to support an export fish industry.

Plan of Action:

1. Determine the size of fishing fleet necessary to sustain a commercial fish export industry.
2. Determine the number and sizes of fish processing vessels to support each island group.
3. Compare processing vessel economics to equivalent shoreside plants, considering logistics of both fishing fleet and process vessels.

End Product:

Economic assessment of use of fish process vessels for island export fish industry.

Benefit:

If economically attractive, a fleet of fish processing vessels will result and the islands' fishing industry can be expanded.

Schedule: One year study

Estimated Cost: \$100,000

Constraints: None to accomplishing the study.

Lead Agency: MarAd/NMFS

Priority: 2

Pacific Basin Development Conference

**Workshop 4, Panel B
MUNICIPAL SERVICES**

PROGRAM ELEMENT 14a

Funding for a Regional Development Bank

Problem Definition:

To fund Regional projects for the U.S. Island Territories and the State of Hawaii.

Plan of Action:

1. Develop organizational structure.
2. Identify funding mechanisms.
3. Develop procedures and controls for lending.
4. Decide on location.
5. Start program.

End Product:

A Regional Pacific Islands Development Bank.

Benefit:

An alternative mechanism for funding regional projects.

Schedule:

Planning -- 6 months

Implementation -- 12 months

Estimated Cost: \$50,000,000

Constraints:

1. Lack of funding.
2. Island politics may prevent it from happening.

Lead Agency:

Economic Development Administration, Department of Commerce

Priority: 2

Pacific Basin Development Conference**Workshop 4, Panel B
MUNICIPAL SERVICES****PROGRAM ELEMENT 14b****Economic Development Loan Fund****Problem Definition:**

To provide venture capital to finance economically feasible development projects for individual island projects.

Plan of Action:

For example:

1. The Development Bank of American Samoa, a quasi-government organization, will administer the fund.
2. The Office of Economic Development Planning of the American Samoa Government evaluates project proposals for submission to the Bank Board of Directors for approval.
3. Disseminate information regarding availability of loanable funds for economic development projects.

End Product:

Availability of venture capital to finance development projects.

Benefit:

The availability of venture capital in American Samoa is a positive step towards enticing new industries to locate in American Samoa and a step in the right direction toward encouraging local residents to participate in territorial growth.

Schedule: On-going**Estimated Cost:**

\$10,000,000 for one bank; \$30,000,000 for three.

Constraints:

1. Federal regulations attached to such funds may make the usage of this resource unproductive.
2. Would not be required if a Regional Development Bank was established and funded.
3. Venture capital is risk capital which may be contradictory to U.S. policy.
4. Since American Samoa is a U.S. territory, it cannot participate in other programs such as the Asian Development Bank, etc.

Lead Agency: Department of Commerce**Priority: 2**

Pacific Basin Development Conference**Workshop 4, Panel B
MUNICIPAL SERVICES****PROGRAM ELEMENT 15****Sewer/Water System Improvements****Problem Definition:**

The need to upgrade sewer/water systems in accordance with wastewater facilities and comprehensive health plans and to provide adequate potable water supplies.

Plan of Action:

1. Preparing funding request.
2. Provide A & E work.
3. Solicit bids.
4. Connect sewer lines, collectors, and laterals.
5. Provide training for a controlled maintenance program.
6. Replace existing water distribution systems.
7. Upgrade village water systems.
8. Replace wells and pumps.
9. Upgrade water systems at the schools.
10. Provide other system extensions.

End Product:

1. Elimination of cesspools and septic tanks which are health hazards in high density residential areas.
2. Reliable and safe drinking water systems.

Benefit:

This project will enhance regional preventive medical care programs and provide adequate water supply and improved quality of drinking water for citizens and visitors.

Schedule:

1981 -- Do A & E work, solicit bids, start construction and begin training.

1982 -- Complete construction of sewer collectors and laterals.

1982 -- Complete construction of water systems.

Estimated Cost: \$20.0 million

Constraints: Lack of funds.

Lead Agency:

Department of the Interior, EPA, HUD, and the military services.

Priority: 2

Pacific Basin Development Conference**Workshop 4, Panel B
MUNICIPAL SERVICES****PROGRAM ELEMENT 16****Codisposal of Sewage Sludge and Municipal Solid Waste****Problem Definition:**

Sewage sludge and municipal solid waste (MSW) are disposed of daily by municipalities, but in the process consume expensive energy and limited land areas. Therefore, it would be useful to determine the economic feasibility of disposing of sewage sludge and MSW together on a waterborne platform in an environmentally acceptable manner.

Plan of Action:

1. Survey the Pacific Islands to determine current sludge and MSW disposal methods including environmental acceptability.
2. Obtain data on quantities, BTU content and composition, including heavy metal content.
3. Determine potential buyers for recovered material.
4. Develop a scenario for waterborne codisposal including extent of prior dewatering required for the sludge.
5. Determine the economic viability of waterborne codisposal.

End Product:

Initial: A report showing the economic viability of waterborne codisposal of sludge and MSW including quantities, costs, and recommendations for further action.

Final: Waterborne codisposal facilities.

Benefit:

1. Elimination of two major municipal waste disposal problems simultaneously.
2. Minimizing unproductive use of the limited land area.

Schedule:

Initial feasibility study - one year
Operational, codisposal, waterborne platforms - three years

Estimated Cost:

1st year - \$150,000 for the study & \$850,000 for the Prototype
2nd, 3rd, 4th years - Facility operations - \$19,000,000
Total - \$20,000,000

Constraints:

There cannot be codisposal for those islands which do not have a municipal sewer system. Possible concern on stack emissions of heavy metals although there are no regulations governing this at present. Also, insufficient data exist for estimating heavy metal emissions.

Lead Agency:

MarAd for funding the feasibility study; EPA for characterizing the MSW and sludge. The local governmental entity would own the waterborne codisposal facility which would be designed, built and operated by private interests.

Priority: 2

Pacific Basin Development Conference**Workshop 4, Panel B
MUNICIPAL SERVICES****PROGRAM ELEMENT 17****Desalinization Project****Problem Definition:**

There is a need for increased supply of fresh, potable water for the Pacific Islands.

Plan of Action:

1. Identify the latest technology for desalination most appropriate to the level of salinity of existing and potential water supply. Concentrate on facilities that can utilize solar energy to the maximum extent practicable.
2. Identify potential sites, including use of water mobile plant ships.
3. Construct and implement at least one such facility.

End Product:

An additional source of fresh water.

Benefit:

1. Desalination of existing brackish water supply, ability to utilize marginal wells, exploitation of additional supplies of water (including sea water, where appropriate and practical).
2. Increased carrying capacity for development.
3. If practical for outer islands, would significantly improve quality of life and development potential.

Schedule:

1. Assess need for desalination plants - six months
2. Engineering studies, etc. - nine months
3. Construction - nine months to one year

Estimated Cost: \$5,000,000 Total**Constraints:**

Depending on degree of salinity involved, costs may exceed benefits.

Lead Agency:

MarAd, Department of Energy/EPA/U.S. Water Resources Council/various UN agencies/third countries with expertise (such as Israel).

Priority: 2

Pacific Basin Development Conference**Workshop 4, Panel B
MUNICIPAL SERVICES****PROGRAM ELEMENT 18****Chemicals From the Oceans****Problem Definition:**

Determine chemicals suitable for extraction from the sea at island sites.

Plan of Action:

1. Catalogue chemicals available either in the oceans or in sea plants or fish adjacent to the Islands.
2. Assess market size, value and costs of extraction process plants to operate such industries in the Islands.
3. Identify leading candidate chemical extraction processes and systems for the Islands, including the use of floating plant vessels.

End Product:

Selected chemical industries and their economic potentials for island industries.

Benefit:

Lower cost chemicals and a new Islands industry.

Schedule:

One year study.

Estimated Cost: \$250,000

Constraints:

None to accomplishing the study.

Lead Agency:

MarAd/EDA

Priority: 3

Pacific Basin Development Conference**Workshop 4, Panel B
MUNICIPAL SERVICES****PROGRAM ELEMENT 19****Remote Housing Prototype Development****Problem Definition:**

To develop a series of prototype housing models which reflect the cultural conditions of the Pacific; utilize native materials where practical; can be constructed with unskilled labor, and are minimal in cost.

Plan of Action:

1. Each local governmental housing agency will survey its residents on size of shelter needed, type of architectural style, amenities desired, affordability, and potential locations and number of units needed.
2. An architectural consulting firm will prepare a series of designs suitable for each locality, based upon close collaboration with each housing agency.
3. Upon acceptance of basic design by the housing agencies and HUD/FMHA, a limited number of prototype housing units will be constructed at selected sites to test the design, the unskilled workman construction concept, and livability and acceptance by the consumer.

End Product:

A series of prototype designs suitable for various locations in the Pacific Basin area.

Benefit:

1. Provide safe, sanitary and livable housing at minimum cost.
2. Provide typhoon resistant housing.
3. Provide shelter that is culturally acceptable to the people.
4. Maximize the amount of housing per Federal grant or loan dollar.
5. Make it feasible for local government to have a lead role in improving living conditions.

Schedule:

1. Survey and design of prototypes - six months
2. Construct model prototypes - 12 months.

Estimated Cost:

1. \$150,000
 2. \$350,000
- Total - \$500,000

Constraints:

1. Existing housing laws are not suitable for the provision of assisted housing to much of the Pacific Basin area.
2. Lack of local mortgage laws and existence of communal land system are obstacles to conventional financing of housing.
3. Reluctance of Federal agencies to accept "local standards" for housing.
4. Logistical problem of distance, transportation, and skilled labor and the high cost of materials and labor tend to be reflected in high construction costs.

Lead Agency:

Housing and Urban Development

Priority: 3

Pacific Basin Development Conference**Workshop 4, Panel B
MUNICIPAL SERVICES
PROGRAM ELEMENT 20****Floating Hotel Recreation Unit Feasibility Study****Problem Definition:**

Review existing studies and evaluate the economics of a floating hotel recreation center for supporting Island tourism.

Plan of Action:

1. Evaluate volume of tourist trade at selected island sites.
2. Develop conceptual designs of the hotel and recreation centers for greatest utilization of the ocean sites.
3. Assess economics of the system and compare to fixed shoreside complexes.

End Product:

Economic assessment of a floating tourist hotel as a business venture.

Benefit:

If economically attractive, the floating facility can be built on the U.S. mainland and towed to the island site. Relocations at a later date are also possible.

Schedule:

Two year study

Estimated Cost: \$250,000**Constraints:**

None to doing the study.

Lead Agency:

MarAd/USTS/EDA.

Priority: 3

Pacific Basin Development Conference**Workshop 4, Panel B
MUNICIPAL SERVICES****PROGRAM ELEMENT 21****Distillery Plant Vessels Feasibility Study****Problem Definition:**

Evaluate use of distillery plant vessels to start a liquor export industry.

Plan of Action:

1. Investigate the Islands to determine if they are suitable for expanded production of sugar cane or similar high sugar content crops.
2. Evaluate the economics for use of floating factory vessels to process sugar cane into alcoholic liquors and animal feeds, including bottling, packaging and storing.
3. Compare economics of floating plant vessels with fixed shoreside equivalents. (Also consider a moving plant servicing several islands in an Island group.)

End Product:

Economic assessment of an Islands liquor industry and floating plant vessel, as well as fixed shoreside plants.

Benefit:

Considering the marginal industrial base available in some Island groups, the economics of plants built in the mainland and towed to the operating site may be attractive.

Schedule:

One year study

Estimated Cost: \$150,000

Constraints:

Use of crop land to produce alcohol rather than food. Water availability.

Lead Agency:

MarAd/EDA

Priority: 3

Pacific Basin Development Conference

Workshop 4, Panel B
MUNICIPAL SERVICES

PROGRAM ELEMENT 22

Installation of Island-wide Street Lighting for Urban Centers on Rota,
Tinian, Saipan, and Other Sparsely Populated Islands

Problem Definition:

There is need to install adequate street lighting on all island roadways in the Northern Marianas and on other sparsely populated islands.

Plan of Action:

1. Determine acceptable lighting standards.
2. Inventory lighting needs on Rota, Tinian and Saipan and other islands.
3. Let contract for purchase and installation of street lights.
4. Prepare and implement operations plan for street light maintenance.

End Product:

Adequately illuminated roadways.

Benefit:

1. Improved highway safety.
2. Reduced number and severity of accidents.

Schedule:

1. Determine lighting standards and inventory needs - six months
2. Installation of street lights - one year.

Estimated Cost: \$100,000

Constraints:

1. Possible electrical generation problems on Tinian and Rota and the other islands.
2. Financial limitations.

Lead Agency:

Federal Highway Administration (FHWA), Economic Development Administration, and Rural Electrical Administration.

Priority: 3

Pacific Basin Development Conference**Workshop 4, Panel B
MUNICIPAL SERVICES
PROGRAM ELEMENT 23****National Marine Parks System****Problem Definition:**

The population centers of the Pacific Basin Islands depend on the oceans and the tourist attractions of their cultures and tropical environment. There is a need to expand the marine park system in order to achieve popular understanding of the oceans and improve recreational resources.

Plan of Action:

The few national marine parks developed to date have been highly successful. Such parks, on an expanded scale, can serve two important functions. First, they provide critical recreational facilities near areas of high population density. Second, they can serve to focus national attention of the potential of the oceanic realm for human recreational, tourist and commercial activities and on its sensitivity to human activities. Only with such first-hand understanding at the grassroots level is a national commercial ocean development program likely to gain the momentum it requires. Needed first is a clear definition of the types and numbers of marine parks appropriate to the Islands. Following that, an incremental development plan involving public and private capital, as well as Federal subsidy, appears in order. It is clear that such plans should be made components of the Islands coastal zone management plans.

End Product:

A greatly expanded marine park system in the Islands.

Benefit:

Improved popular understanding of the marine environment and its potential, as well as greatly expanded recreational facilities.

Schedule:

1. Marine parks system plan within one year.
2. Construction completed within five years.

Estimated Cost:

1. \$200,000
 2. \$4,800,000
- Total - \$5,000,000

Constraints:

1. Limited coastal land.
2. Conflicting land uses.

Lead Agency:

NOAA and DOI

Priority: 3

Pacific Basin Development Conference**Workshop 4, Panel B
MUNICIPAL SERVICES****PROGRAM ELEMENT 24****Regional/Island Emergency and Safety Services****Problem Definition:**

It is necessary to provide the Islands with the emergency equipment necessary to provide the minimal life support infrastructure for their populations. Safety services for recreation and commercial swimming and diving and ocean industries, are also required.

Plan of Action:

1. For example, procure three fire pumps, one ambulance for Saipan and one patrol vessel. Fire pump size and spacing are dependent on types and sizes of water supply systems -- see Program Element 15.
2. Train personnel with the assistance of the Coast Guard and the U. S. Fire Administration.

End Product:

A safety environment in the Islands that is equivalent to that available on the Mainland.

Benefit:

1. Decrease in fires and accidents.
2. Improved safety for recreation and commercial ocean industries.

Schedule:

1980 - Begin training and order equipment.

1981 - Implement program

Estimated Cost: \$2,000,000**Constraints:**

Lack of trained personnel.

Lead Agency:

LEAA, DOT, U.S. Fire Administration and Public Health Services.

Priority: 3

Pacific Basin Development Conference

Workshop 4, Panel B

MUNICIPAL SERVICES

PROGRAM ELEMENT 25

Ocean Incineration of Hazardous Wastes

Problem Definition:

Destruction of toxic and hazardous waste materials is necessary for protection of people and the environment and to minimize use of finite land areas. In addition, toxic/hazardous waste materials are stockpiled on many of the U.S. Pacific Islands, some dating back to World War II. Therefore, it would be useful to determine the socio-economic feasibility of incinerating toxic and hazardous waste materials at sea.

Plan of Action:

1. Survey the lands of the Pacific Basin to establish the existing types and quantities of toxic and hazardous wastes which are suitable for ocean incineration.
2. Determine the present and projected types and quantities of toxic chemical wastes that will be produced annually by the Pacific Basin industries.
3. Develop scenarios for ocean incineration for U.S. island wastes and for other Pacific Basin countries such as Japan and Australia/New Zealand but using the U.S. islands as a base of operations.
4. Determine the cost of disposal by ocean incineration for the developed scenarios and compare to environmentally acceptable land disposal methods, particularly those that provide for destruction of the waste.
5. Determine the present and projected social acceptability of waste disposal on land.
6. Determine the feasibility of incinerating low level radioactive waste (LLW) at sea for volume reduction purposes. The suitable LLW for such an application comes primarily from nuclear reactor operations.

End Product:

Initial: A report showing the socio-economic feasibility of ocean incineration of toxic and hazardous wastes, including waste quantities, costs, and recommendations for further action.

Final: Incineration ship(s).

Benefit:

1. Protection of people and the environment.
2. Minimizing use of limited land area.
3. Helping to maintain the attractiveness of the islands for tourism.

Schedule:

Initial feasibility study - one year
An operational incineration ship - three years

Estimated Cost:

1st year - \$200,000 for the study
2nd, 3rd, 4th, 5th years - \$19,800,000

Constraints:

Potential unavailability of sufficient waste to support an incinerator ship.

Lead Agency:

MarAd for funding the feasibility study and providing Title XI coverage; EPA for funding developmental and qualification costs such as monitoring incineration parameters and analyzing air and water samples. A private company would acquire and modify a ship.

Priority: 3





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COSPONSORS

ISLAND GOVERNMENTS



American Samoa
Guam
Hawaii
Northern Mariana Islands

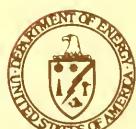
FEDERAL GOVERNMENT



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